Unifier 9.2.2

User Guide

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Unifier™

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1 INTRODUCTION

WELCOME TO UNIFIER

Designing, building, and managing facilities requires extensive collaboration between numerous, often geographically dispersed, disciplines and entities. Throughout the process, from conceptual design to facility operations, access to accurate, up-to-date information is critical to the success of a project and facility.

Skire's Unifier is an integrated platform that optimizes business processes and creates visibility to enable customers to better manage all of the communications and information required to successfully manage a facility throughout the lifecycle.

Unifier is a system for managing the flow of information in projects or shells, providing a seamlessly automated and integrated environment across the lifecycle of your company's facilities, from planning, design, procurement, construction and into operations and maintenance. It provides real-time visibility across multiple projects or shells to help your company make fast, accurate decisions.

Unifier lets you track and manage information such as budgets, project or shell members, specifications, requests for information, and shared documents. You decide who has access to the information, which team members are allowed to approve changes to the information, and how information flows between people.

Skire's solutions automate manual processes and pull together information from various point systems typically used on a portfolio of projects or shells. Through Unifier, executives and project or shell team members can better manage all data and business processes in one centralized system, while reducing the reliance on older technologies such as e-mail, fax, and desktop applications.

Unifier was designed from the ground up specifically for the facility owner, based upon our industry domain expertise and knowledge of best practices combined with direct customer input gathered over decades of client interaction. The result is a robust set of capabilities with an intuitive, easy-to-use interface. Unifier enables leading owners and operators to increase enterprise efficiencies, reduce project and operating costs, enhance visibility, and improve time-to-market.

IF YOU NEED HELP

If you need help with an operation within Unifier, there are a number of resources to help you.

ONLINE HELP OR GUIDES

If you have a question or need further assistance regarding a specific feature, review the online help or consult user or administration guides.

To access online help or guides
Click the Help menu from any Unifier window, and choose one of the following:

- **Unifier Help**: Accesses the online help system.
- **Download PDF > User Guide, Admin Guide, Reference Guide, or How do I...?**. Allows you to download the *Unifier User Guide, Unifier Administration Guide, Unifier and uDesigner Reference Guide,* or the *How do I...? Guide*. You must have Adobe Acrobat Reader installed (available free at www.adobe.com).

  The *Unifier and uDesigner Reference Guide* contains:
    - Data Definitions
    - Data Elements
    - Permission Settings
    - Extracting Data for User Defined Reports
    - Import Codes
    - Pre-Defined Pickers
    - Glossary
- **Release Notes**: Discusses new features of the current version of Unifier.
- **BP-specific Help**: If your company has provided customized help files for individual business processes, these will be listed in the Help menu when the BP log is active.

SKIRE COMMUNITY

You can access the Skire Community web pages through Unifier. Logging into the Skire Community allows you to participate in forums with other users, learn about best practices and tips for getting the most out of Unifier, access documents and presentations, and get release notes for past releases and previews of coming releases of Unifier.

To log into the Skire Community

1   Log into Unifier.

2   Click the **Community** link in the upper right portion of the Unifier window.

Figure 1-1 Community link

3   The Skire Community Login window opens.

Figure 1-2 Skire Community Login

4   Enter your **Username** and **Password**. If you are not already a member of the Skire Community, you can join by sending a request to Community@skire.com.

5   Click the **Login** button.

CONTACT CUSTOMER SUPPORT

If you need assistance, contact Skire's Customer Support Team:

- E-mail: support@skire.com
- Telephone: 1-866-GoSkire (1-866-467-5473)

You can access your company support information (if configured) on the Contact tab by clicking the Support link.

Figure 1-3 Support link

From the Support window, you can do the following:

- On the Contact tab, view Customer Support contact information (your company support or Skire support). For example:
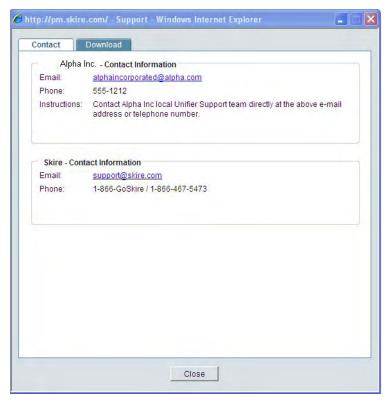
Figure 1-4 Company support and Skire support

If your company support information has not been configured by your administrator, that information will be blank.

- From the Download tab, download these applications or plug-ins and installation instructions:
    - Unifier File Transfer application
    - Unifier Mobile application
    - uCAD plug-in
    - SmartForm plug-in

2 | GETTING STARTED

In this chapter

▸ *Overview of Unifier*
▸ *First Time User information, including how to access the First Time User Setup Guide, which out-lines system requirements and first-time setup instructions*
▸ *Logging in to Unifier for the first time*
▸ *Understanding the Unifier user interface*
▸ *Setting up your user preferences, which include Contact information, Time zone, Date format, File viewer option, File transfer option, E-mail management settings, and Proxy user designation*

If you are using Unifier for the first time, it is recommended that you read this chapter, which will help you get acquainted with the application and navigation.

LOGGING IN AND OUT OF UNIFIER

The following section discusses how to access Unifier, where to get first time user information for configuring your browser, and how to log in and out of Unifier.

INFORMATION FOR FIRST TIME USERS

Before using Unifier, refer to the *First Time User Setup Guide*, which details the minimum system and browser requirements, procedures for configuring your browser, setting document view options, and other important information.

To access the Unifier Login window

1   In Microsoft Internet Explorer, enter the web address http://www.skire.com.

2   From the Customer Login field in the upper right corner, select **Unifier** and click **Go**. The Unifier Login window opens.

Figure 2-1 Unifier Login window

To access the *First Time User Setup Guide*

1   Open the Unifier Login window.

2   At the bottom of the Unifier Login window, click the **1st Time Users? Click Here** link. The *First Time User Setup Guide* opens.

Follow the instructions in the document to configure your browser settings, which is necessary in order for Unifier to run correctly. Once you have set up your browser, you can log in to Unifier.

LOGGING IN AND OUT

After following the instructions outlined in the *First Time User Setup Guide*, you are ready to log in and begin using Unifier.

To log in to Unifier

In the Unifier Login window, enter your user name and password and click **Login**.

If you have access to more than one company and are an active user in the companies, select the company to log into as well. If you have to change company access at any time, you must log out, and then log in again, selecting the new company to access.

The Unifier application opens to your user home page.

To log out of Unifier

Click the **Logout** link in the upper right corner of the Unifier window.

If you have trouble logging in

- Be sure you are entering the correct user name and password as given by your administrator.
- Check the Caps Lock key on your computer; user names and passwords are case-sensitive.
- If you need assistance, contact your Company Administrator or Skire Customer Support.

> **Note:** *After logging in for the first time, you may wish, or be required, to change your password. This is done through the **Preferences** link in the upper portion of the Unifier window. For more information, see "Change your password" on page 14.*

Tip: Save your work often. If you are inactive in Unifier for longer than the time-out limit (one hour), the system will log you out automatically, and any unsaved work will be lost.

To reset your password if you forget it

1   Click the **Forgot Password?** link in the Login window.

2   Enter your user name and e-mail address, and click **OK**.

3   Answer the Secret Question(s), and click **Submit**.

4   You will receive an e-mail notification containing your re-set password.

5   Use the new password to log into Unifier.

> **Note:** *If no Secret Question have been set up for you, or if your Unifier account is Inactive or On-Hold, you will receive an error message instructing you to contact Skire Support. See "Add Secret Questions for Password Reset" for instructions on adding secret questions.*

NAVIGATING IN UNIFIER

Navigating in Unifier is easy. Every module, feature, and record in Unifier can be instantly accessed via the Navigator, which is always available in the left pane of the Unifier screen. Additional functions are available from the links at the upper right portion of the screen.

NAVIGATOR

The primary means of accessing Unifier features is from the Navigator, located in the left pane of the Unifier window.

The Navigator is similar to a familiar folder system, much like a network drive. Each feature is stored in its own "node" (similar to a folder). Each node is controlled by flexible read and write permissions. If you do not see a feature in the Navigator, contact your project or shell Administrator or Company Administrator to verify that you have been assigned the proper access permissions.

Note: *The example below displays the default Navigator appearance. Company Administrators can configure the User Mode Navigator to better suit business needs, for example, creating additional nodes to store business process records, renaming some of the nodes mentioned below, and so on. Your Navigator may differ, but the basic functionality will be the same.*

Figure 2-2 Unifier Navigator example

USER HOME PAGE

When you first log in to Unifier, you will be on the User home page. From the User home page, you can:

• Review all of your projects or shells, tasks, or messages with a single click.

• Quickly view which of your projects has active tasks or new uMails for you.

• View system-wide project or shell or shell announcements.

• Access Unifier functions using the Navigator.

Click the Home tab to return to the Home page.

Figure 2-3 User Home Page example

Note: *Any time you want to return to the User home page, click* **Home** *at the top of the Navigator.*

MODES OF OPERATION

Unifier has two modes of operation:

• **User Mode:** Where Unifier day-to-day activities are done; collaborate through business processes and uMail; maintain the Cost Manager, Schedule Manager, and Document Manager; run reports.

• **Administration Mode:** Set up company, program, and project or shell properties, user permissions, templates for major Unifier features, and data structure; set up and configure business process forms and workflows.

Switch between the modes using the Navigator. Access to Unifier functionality is granted through permissions. The ability to utilize a specific function in Unifier depends on permissions settings.
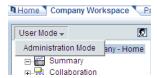
Figure 2-4 Switch between User Mode and Administration Mode

LINKS

The links in the upper portion of the Unifier window provide access to your user preferences and additional support information, and lets you log out of Unifier. See the following for details.

Figure 2-5 Unifier Links

TABS AND NAVIGATION

Your shells, projects, programs and company workspace entities are listed on tabs.

by default, Unifier lists the Home, Company Workspace, and Projects tabs at the top of your Home page. If single instance shells have been imported into Unifier, these shells are represented in on the Home page as tabs, at the same level as the Home tab.

In the example shown below, Capital Project and Maintenance Management are examples of single instance shells. Note that they are displayed in the interface as tabs.

Figure 2-6 Example of single instance shells shown as tabs in Unifier

To access the various groups of shells, click the tab with the single instance shell name. The shell landing page displays and the sub-shells are list in the shell log in the lower area of the landing page. See Chapter 4, "Shells" for details on working with shells.

Your Company Administrator can rearrange the tabs for you, if you need them in a certain order in the interface.

BREADCRUMBS

Breadcrumbs or a breadcrumb trail are a navigation technique used in many user interfaces. Breadcrumbs give you a way to keep track of your current location in Unifier when working with shells. As you navigate through the interface, breadcrumbs appear in the upper right corner of the current window. For example

Figure 2-7 Example of breadcrumbs

Breadcrumbs provide links back to each previous page that the you have navigated through in order to get to the current page, finally providing a trail for you to follow back to your starting point.

CONFIGURING YOUR USER PREFERENCES

From the User Preferences window, you may change your password, change the time zone or date format, designate a proxy user, and choose file transfer and file viewer options. The following procedures describe how to configure the User Preferences settings.

Note: *Depending on the set up for dates in uDesigner, some of the date pickers can default to today's date, or allow for date only selection (no time or time zone displayed with the date).*

ACCESS THE USER PREFERENCES WINDOW

To access the User Preferences window

1   Click the **Preferences** link in the upper right portion of the Unifier window. The User Preferences window opens. From the User Preferences window, you can do the following:

  • View your contact information in the General tab.

  • Change your password in the Security tab.

  • Change your time zone and date format settings, and choose file viewer, file transfer, and e-mail management options in the Options tab.

  • Define a proxy user in the Proxy tab, or log in to another user's account for which you have been named a proxy user.

2   When you have made the necessary changes, click **Apply** to save the changes, or **OK** to save and exit the window.

Note: Company administrators can update all options shown in the Options tab using a User Preferences template. If any settings have changed, they may have been updated by the administrator. You may want to contact your administrator before changing these settings.

VIEW YOUR CONTACT INFORMATION

Contact information is displayed in the General tab.

To view your contact information

1   In the User Preferences window, click the **General** tab.

2   From the Contact drop-down list, choose the user directory in which to view your contact info. Company Directory refers to the full list of a company's users, which lists the main "company" contact information. Project or Shell Directory refers to the contact information for project or shell team members, where contact information may be project- or shell-specific.

Note: Contact information is not editable in this window. To change your contact information, notify your Company Administrator.
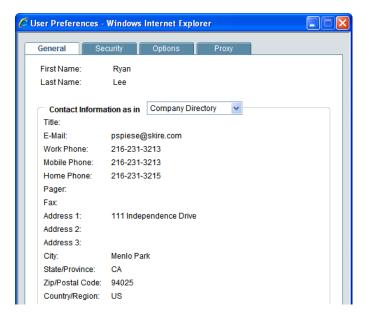
Figure 2-8 User Preferences window, General tab

In this field	Do this
Contact Information as in	Displays your contact information as it appears in the Company Directory and in the Project/Shell Directory of each project or shell (user contact information may vary from project or shell to project or shell). Click the drop-down menu to display the directory choices. When the navigator is at the company level, the Company Directory is available. If you currently have a project or shell open, the current project's or shell's Project/Shell Directory will also be available.

Change your password

User passwords can be changed in the Security tab. For security reasons, it is good practice to change your password from time to time. Your administrator may require you to change it at set intervals. You can view your company's Password/Login Policy to review minimum password requirements, time-out settings, and more. This is set up by the Company Administrator.

The Password Policy only applies to the Owner/Sponsor company. For Member or Partner company users, the default password policy definitions apply. The following table lists the default policy password definitions.

Password setting	Definition
Minimum overall character(s)	Minimum number of characters that a password must contain; default is one (1).
Maximum overall character(s)	Minimum number of characters that a password must contain.
Minimum numeric character(s)	Password must contain a minimum amount of numbers.
Minimum alphabetic character(s)	Password must contain a minimum amount of letters.
Minimum special character(s)	Special characters are [{~!@#$%&*()-_=+;:'",<.>/?}].

Password cannot be same as user name	Users cannot use their user name as a password.
Password cannot be the same as the user's first or last name	Users cannot use their first or last name as a password.
Password cannot be the same as the last password	A newly changed password must be different from the previously used password.
Password expiration	If a password expires, users are prompted to change it when they next log in.
Inform user before expiration	Upon log in, users are warned that their passwords are about to expire, and are given the opportunity to change the password.
Maximum login attempts	If a user does not successfully log in after this number of attempts, the account is locked.
Suspend inactive user after	Sets the number of days of inactivity before a user account is locked.

CHANGE YOUR UNIFIER PASSWORD

In the User Preferences window, click the **Security** tab. Enter a new password, then reenter it to confirm. You must log out of Unifier for the change to take affect.

To view your company's password policy
From the Security tab, click the **View Password Policy** link. The Password Policy window opens.

Figure 2-9 User Preferences window, Security tab

In this field	Do this
Password	Type your new password. Any restrictions regarding length, allowed characters, and so on are determined by your Company Administrator and displayed in your company's Password Policy.
Confirm Password	Retype the new password to confirm it.
View Password Policy	Click this link to open the Password Policy window, which displays your company's policy regarding password and security settings for Unifier.

ADD SECRET QUESTIONS FOR PASSWORD RESET

You can add up to three Secret Questions to answer when you click **Forgot Password?**. It is recommended that you set up the Secret Questions so you can reset your own password. After you answer the Secret Question(s), you will receive e-mail notification of your new password.

To add Secret Questions to use when resetting your password
On the Security tab, under Password Recovery Secret Questions, select a question and enter the answer. You can add up to three Secret Questions.

CHANGE TIME ZONE OR DATE FORMAT

The Time Zone setting affects the date stamp that appears on the actions that you perform in Unifier, such as saving or uploading files, and also affects due dates for tasks that are assigned to you. The Date Format determines how date fields appear on your Unifier screen. These settings are maintained in the Options tab.

To set the time zone
In the User Preferences window, click the **Options** tab. Click the **Time Zone** drop-down menu and select a time zone based on your locale.

To set the date format
In the User Preferences window, click the **Options** tab. Click the **Date Format** drop-down menu and select a date format.

Figure 2-10 User Preferences window, Options tab (Time Zone and Date Format)

CHOOSE A FILE VIEWER OPTION

The file viewer option determines how Unifier displays files (such as documents or drawings) that are attached to business processes or stored in the Document Manager and opened from within Unifier.

To specify a file viewer option
From the User Preferences window, Options tab, choose a File Viewer:

- **Native:** Documents are opened in their native applications; for example, Microsoft® Word documents are opened in Microsoft Word. The native application will not display graphical markups. This option requires that users have the native application installed on their machine in order to view the document. This is the default option.

    Note: *Unifier automatically displays document markups using the Cimmetry viewer (see below) without having to change your options.*

- **Unifier Viewer:** Documents are displayed in a Cimmetry viewer, which can display virtually any type of file. Documents are opened in a read-only view that supports adding graphical markups and text comments. (See Chapter 5, "Business Processes" and Chapter 10, "Document Manager" for more information about graphic markups.)
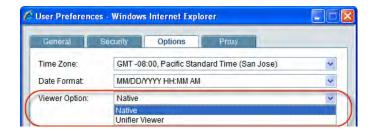
Figure 2-11 User Preferences window, Options tab (Viewer option)

CHOOSE A FILE TRANSFER OPTION

The File Transfer option determines how files are transferred between Unifier and your local system. File transfers include uploading and downloading documents to and from the Document Manager, or attaching files from your local system to a business process, cost or funding sheet cell, schedule sheet or uMail message. The Advanced option is required if you are transferring drawing files into the Space Manager.

There are three file transfer methods:

- **Basic:** HTML-based. This method can be used on any Unifier-compatible machine without having to install a third-party program. It has the most basic functionality, allowing single-file selection for uploads and downloads, and will resolve drawing reference files after upload.
- **Intermediate:** Sun JRE. In addition to basic functionality, this option supports the selection of multiple files and folders for uploading and downloading. It will resolve reference file relationships in DWG and DGN drawing files. This process takes place on the server (that is, reference files should already be uploaded to Unifier or be part of the current upload process). See the *First Time User Setup Guide*, File Transfer Option, for details on supported JRE versions and the URL for JRE downloads.
- **Advanced:** Sun JRE and Unifier File Transfer Application. This option provides the greatest flexibility for uploading and downloading documents and folders, especially drawing files. In addition to the Intermediate functionality, its advanced functionality for managing reference file relationships in DWG and DGN drawing files makes it easier for users to locate, upload, revise, and download reference files. The resolve process is done on your local system. The process will make sure that all reference files are included in the upload and will automatically bundle necessary files as needed.

The Advanced option requires the download and installation of Unifier File Transfer Application and Sun JRE. The Unifier File Transfer Application installation file and instructions are available for download from within Unifier. See the *First Time User Setup Guide*, File Transfer Option, Supported Sun JRE Versions, for details on supported JRE versions and the URL for JRE downloads.

File Transfer Option	Requires 3rd party application	Allows additional file properties	Allows upload / download of multiple files	Allows upload / download of folders	Allows drag-&-drop file selection	Resolves reference files	Resolve process is done locally
Basic	none	Y				Y	
Intermediate	Sun JRE	Y	Y	Y	Y	Y	
Advanced	Sun JRE (plus Unifier File Transfer Application)	Y	Y	Y	Y	Y	Y

To choose the file transfer option

Click the **User Preferences** link and click the **Options** tab. From the File Transfer Option drop-down menu, choose either Basic, Intermediate, or Advanced.

Figure 2-12 User Preferences window, Options tab (File Transfer option)

Note: For information about installing Sun Java JRE and the Unifier File Transfer Applications, refer to the *First Time User Setup Guide*.

SELECT CUSTOM COMPANY-LEVEL DASHBOARD AS DEFAULT LOGIN VIEW

Click **Default Login View: Use Custom Dashboard as default login view** in your preferences to specify that a custom Company-level dashboard is the default view when you log into Unifier. You can choose to have the default Unifier Dashboard by clicking the Go to User Mode link in the upper right corner of the Unifier window. You can choose from among the configured custom Company-level dashboards by selecting a dashboard from the Available Dashboards drop-down menu.
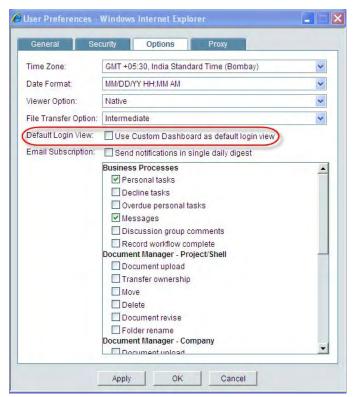
Figure 2-13 User Preferences window, Options tab (Use Custom Dashboard as default login view)

SELECT E-MAIL SUBSCRIPTION OPTIONS

The Email Subscription option enables you to control the number, type, and frequency of Unifier-related e-mail notifications. You can decide whether or not to receive e-mail notifications for specific events within Unifier. You also have the option of receiving all your Unifier e-mail notifications once a day in an e-mail digest or one at a time in separate e-mail messages.

By selecting a checkbox, you are "subscribing" to e-mail notifications for that event. If a checkbox is not selected, you will not receive any e-mail messages regarding that event.

Checking **Send notification in single daily digest** consolidates your e-mail notifications. The consolidated e-mail contains the content from selected events. You will get a single e-mail instead of an e-mail for each occurrence of selected events.

Note the following:

• **Permissions**: To receive the e-mail notification, you must have at least view permission for that module and event (that is, permissions set in Administration Mode). If you do not have these permissions, this setting will not override the permission setting. You will only get notification on those functions that you have permission to access and view.

• **Document Manager notifications**: In addition to module-level view permission, you must also have at least view permission on the specific documents or folders that would generate the event e-mail. These permissions are set from within the Document Manager. In addition, the owner of the folder has the option of not generating e-mail notifications for specific events. For specifics, see Chapter 10, "Document Manager".

 • **External e-mail accounts**: If you are using an e-mail address from a generic e-mail account (Yahoo, Hotmail, etc.), your spam filter may filter out these notifications. Refer to your e-mail provider regarding how to allow these notifications.

To subscribe to or opt-out of e-mail notifications

1   From the User Preferences window Options tab, select the modules and events for which you want to receive e-mail notifications. See the following table for details. The events apply to the following modules:

 • Business processes
 • Document Manager, project or shell and company level
 • uMail
 • User-defined reports
 • Alerts
 • Gates

2   To opt out of receiving e-mail notifications regarding specific Unifier events, deselect the checkbox for the notification.

3   To receive Unifier e-mail notifications in one e-mail summery per day, click the **Send notification in single daily digest** checkbox. The summary e-mail will be sent if one or more events trigger an e-mail notification.
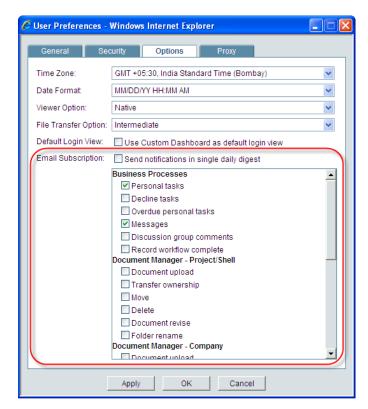
Figure 2-14 User Preferences window, Options tab (Email Subscription options)

This option	Does this
Email Subscription	The e-mail subscription option enables each user to control the number, type, and frequency of Unifier-related e-mail notifications received. Users can opt in or out of receiving e-mail notifications for events within Unifier.
Send notifications in single daily digest	Select this checkbox if you want your Unifier e-mail notifications (see below) sent to you once a day, rather that individual e-mail messages. Deselect this checkbox to have notifications sent individually.
Email Subscription options:	When you select a checkbox next to one of the listed options, you are subscribing to e-mail notifications for that event. To receive the e-mail notification, you must have at least view permission for that module and event. See the option descriptions below for more information. If a checkbox is not selected, you will not receive e-mail messages regarding that event.
Business Processes	These events pertain to business processes. To receive notification, you must have at least view permission for the business process (BP). You can opt to receive e-mail notification when: • Personal tasks: You are part of the assignees list when a BP is sent (this becomes a task for you). • Decline tasks: A task is declined by one or more of the assignees that you have added to a BP that you sent. • Overdue personal tasks: An assigned task is past the due date. • Messages: Someone cc's you on a BP. • Discussion group comments: A discussion group participant adds and saves comments within the discussion group. You will receive notification if you are the owner of the discussion group. • Record workflow complete: The workflow end step has been reached. This is applicable on any workflow BP where you have been selected as part of the "Notify users on workflow completion" setup under the BP Setup > Setting tab. • A certain step occurs in a workflow (if your Administrator has enabled workflow actions for the workflow step) that needs action. Actions are shown as hyperlinks in the e-mail.
Document Manager (project or shell and Company level)	Users with view permission (set in the Document Manager) on the applicable document, folder, or shortcut target receive notification when: • Document upload: A new document is uploaded into the folder. • Transfer ownership: File or folder ownership is transferred. The new owner is notified. • Move: A document, folder, or shortcut is moved from one location or folder to another. • Delete: A document, folder, or shortcut is deleted. • Document revise: A document is revised. • Folder rename: A folder is renamed. **Note:** With this module in particular, a user modifying multiple documents or folders, or folders with many subfolders, can potentially trigger a large amount of e-mail. You can prevent receiving too many notifications by choosing the digest notification (one e-mail) option, or limit the events for which you want to receive notification. **Note:** Document Manager e-mail notifications are only sent if the user has at least view permission (in Document Manager node) on the item triggering the e-mail, and if the item owner enables e-mail notification.
uMail	Users receive e-mail notification when a new uMail is received.
User Defined Reports	Users receive e-mail notification when: • New report granted: The user is granted at least run permission to a user-defined report by another user. • Results from scheduled reports: When a scheduled report has been generated and the results are available; requires run permission be granted for the report.
Alerts	• Each Alert: Users can receive notification when an alert is generated.

Gates	• Change Phase Notification: User receives notification when a phase is changed.
	• Auto-e-mail PDF Gates run: User receives a PDF copy of an automated gates run.
Project/Shell	• Successful creation: Administrator receives notification of the successful creation of a project or shell. This notification occurs if the project or shell is created manually, through Web Services, using a CSV file, or through auto-creation.

Note: *For permission-based e-mails as shown above, e-mail notification is usually sent the first time permission has been granted and not when permissions are modified, unless otherwise noted. Note that Document Manager e-mail notifications are only sent if users have at least view permission on the affected item, and if the item owner enables e-mail notification. See Chapter 10, "Document Manager" for more information about DM e-mail notifications.*

CHOOSE A PROXY USER

This feature allows users to designate another user as a proxy user. Proxy users can be granted permission to access another user's account to complete tasks and perform other functions on that person's behalf if that person is unavailable, such as on vacation.

Choose a proxy user carefully. Remember that when another person logs in as your proxy user, that person will have access to all of the records and functions that you do. A proxy user logged in to your account cannot change your Preference settings.

Audit logs reflect that actions taken by a proxy user are "on behalf of" the original user.

You can limit the period in which the proxy user will have access to your account by specifying a start and end date or leave their access active indefinitely.

Proxy users who have the active status (and during the time period specified using the Start Date/Time and End Date/Time, if a time period is specified), will receive e-mail notification of tasks to perform as proxy.

Note: *If the specified proxy user has Send notifications in a single daily digest selected on the Options tab of their User Preferences, it will impact when they receive notification of the task they must perform as proxy. Ensure that the Send notifications in a single daily digest checkbox is deselected for the proxy user if that user must receive the task notifications immediately.*

To designate a proxy user to your account

1   From the User Preferences window, click the **Proxy** tab.

2   In the upper portion of the window, click the **Add** button. Click the **Select** button. The User/Group Picker opens. Select a user from the **Select Users** list and click **Add**. Click **OK** to close the picker.

3   If you have access to more than one company and are an active user in the companies, select the company to log into as well. If you have to change company access at any time, you must log out, and then log in again, selecting the new company to access.

4   If you want to limit the time period that the proxy user can access your account (for example, only during your vacation days), do the following:

• Click the **Start Date/Time** calendar icon. Select the date and time that you want the proxy to be able to begin logging in as your proxy user and click **OK**. (Dates on the calendar that are grayed-out are company-defined non-working days. They are valid selections for this function.)

- Click the **End Date/Time** calendar icon. Select the date and time to end proxy access and click **OK**.
- To clear a date that has already been entered, click the calendar icon, and then click the **Reset** button.

Note: If you do not specify a start or end date, the proxy user can access your account immediately and their access privileges will not expire.

5 Choose **Active** to activate the proxy user access, or **Inactive** to disable proxy user access.

6 Click **OK**.

To name a new proxy user

You can designate only one proxy user. If you want to change to a different proxy user, make the first user inactive, then add a new one.

Note: Your Company Administrator can also assign another user to act as proxy to your account if you are unable to do so.

Log in as a proxy user

If you have been designated as a proxy for another user, that user will be listed in the lower portion of the Proxy tab of the User Preferences window. As a proxy user, you have virtually all of the permissions of the other user, with the following exceptions: you cannot change the original user's Preference settings (including their password), and you cannot alter any user's Permission settings, even if the original user has Administration permissions to do so.

To log in as someone else's proxy user

From the User Preferences window, Proxy tab, select the user account to which you want to log in as a proxy. Click **Proxy Login**. The Unifier Home Page opens, and you are immediately acting on behalf of the user.

To log out as a proxy user

Click the **Logout** link at the upper right portion of the Unifier window. Your Proxy session will end, but you will still be logged in to Unifier under your own user name.

To view the proxy user settings

In the lower portion of the Proxy tab window, select the user account to which you have been named proxy user. Click the **Settings** button. The Proxy User window opens, displaying the Start and End Date/Time of your proxy access.
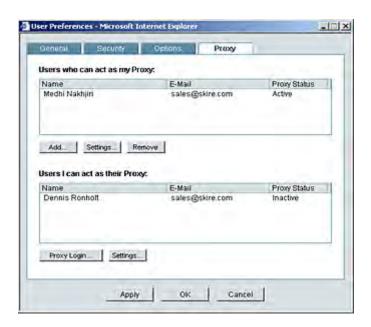
Figure 2-15 User Preferences window, Proxy tab

Item	Description
Users who can act as my Proxy	Allows you to designate another person who can log in as your proxy user. That person will have access to all of the records and functions that you do. A proxy user logged in to your account cannot change your Preference settings. Audit logs reflect that actions taken by a proxy user are on behalf of the original user. The Settings button allows you to activate/deactivate the proxy user or set login time limits.
Users I can act as their Proxy	Lists users who have designated you as a proxy user. You can log in as a proxy user by selecting a user and clicking the **Proxy Login** button, or view your proxy Settings.
Add	Allows you to add a proxy user and specify start and end dates and status.
Settings	Select the proxy and click **Settings** to edit the user or proxy settings.
Remove	Select the proxy and click **Remove** to remove the proxy user.
Proxy Login	Select a user and click to log in as the proxy user.
Settings	Click to view your settings if you are a proxy user.

ADDING BOOKMARKS TO ACCESS UNIFIER MODULES

From the Bookmarks window, you may add bookmarks that provide hyperlinks to Unifier modules that you work with frequently. These bookmarks are similar to the bookmarks that you create in web browsers to help you access web pages more efficiently.

WORK WITH BOOKMARKS

To add bookmarks

1   Select a module in the Navigation window on the left.

2   Click the **Bookmarks** link in the upper right portion of the Unifier window. The Bookmarks window opens.

3   Click **Add**. The module name is added to your list of bookmarks. The bookmark name is the node name. You can modify this name for your bookmark. Unifier does not validate bookmark names, so be sure not to add duplicate or confusing bookmark names. Access through bookmarks is based on your own user permissions. If you add a bookmark to a Unifier area to which you have no permissions, no navigation will occur, and you will receive a warning message.

4   Close the Bookmark window by clicking on another area in Unifier.

> **Note:** *You cannot add bookmarks in Administration Mode.*

To use bookmarks

1   Click the **Bookmarks** link in the upper right portion of the Unifier window. The Bookmarks window opens.

2   Click the bookmark for the module that you want to access. When you click the hyperlink for a module, that module is displayed, provided that you have permission to access that module.

To organize bookmarks

1   You can organize your list of bookmarks in the Bookmarks window. Click **Organize** at the top of the Bookmarks window.

2   You can remove a bookmark by selecting the bookmark and then clicking **Remove**.

3   You can move bookmarks up and down the list by selecting the bookmark and then clicking **Move Up** or **Move Down**.

4   You can designate one bookmark as the default module shown to you at login by selecting the **Default Login** checkbox for that module.

> **Note:** *If you do not have permission to access a module that you designate as the default login, Unifier will display the Home page.*

ATTACHING FILES

This section outlines the rules for file transfer and attachment in Unifier.

ABOUT ATTACHING FILES IN UNIFIER

Assuming that you have the proper permissions, you may attach files (such as Word documents, spreadsheets, drawings, etc.) to business process forms, cells (such as a cost sheet or funding sheet), and uMail messages. These files can be uploaded and attached from your local system, or they can be attached from documents already uploaded and stored in the Document Manager.

The file attachment procedures are similar across the Unifier system. When an Attach button is available in a Unifier window, it is associated with the ability to attach a file. When attaching files to other Unifier modules, such as a uMail message or Cost Sheet cell, you will be presented with two options:

My Computer: Allows you to attach a file from your local system. When you attach files from your local system, the method of upload depends on your File Transfer Option: Basic (HTML), Intermediate (Sun JRE), or Advanced (Sun JRE and the Unifier File Transfer Application).

Unifier Folder: Allows you to attach a document stored within the Unifier Document Manager. You must have at least view permission to the folders and files within the Document Manager in order to view and attach them.

File transfer methods

The method you use will be determined by your file transfer method setting. This is selected in your User Preferences, Options tab. See for details on required JRE versions.

Examples of Unifier modules to which you can attach files

- **Document Manager:** Stores documents in Unifier's powerful document management system. Files are uploaded to the DM and stored in a folder system. Access permissions can be applied to individual folders and documents. Files and folders are uploaded by clicking the **Upload** button. See Chapter 10, "Document Manager" for details.

- **Business Process Forms:** If you are creating or participating in a business process workflow, you can add attachments to the form or to a general comment associated with the form. (Document-type BP forms have special file attachment functionality; see *Chapter 5, "Business Processes"* for more information.) Click the **Attach** button on the BP form or in the General Comments window.

- **Cost Sheet, Funding Sheet, Schedule Sheet Cells:** You can add a file attachment to cost sheet, funding sheet, or schedule sheet cells that have not been auto-populated from a business process. Open the cost, funding, or schedule sheet and click a cell. The Cell Detail window opens. In the Cell Detail window, click **Attach**.

- **uMail Messages:** You can attach a file to a uMail message. Open a uMail message window and click **Attach**.

Attach files from your local system ("My Computer")

When you attach files from your local system, the method of upload depends on your File Transfer Option: Basic (HTML), Intermediate (Sun JRE), or Advanced (Sun JRE plus Unifier File Transfer Application).

To attach documents from your local system (general procedure)
Click the **Attach** button and choose **My Computer**. The file upload window that opens is dependent on the file transfer method that you have selected.

Attach files from the Document Manager ("Unifier Folder")

You can attach documents from Unifier's Document Manager as long as you have at least view permission on the documents.

To attach documents from the Document Manager (general procedure)
Click the **Attach** button and choose **Unifier Folder**. The Select Files window opens. This window displays the folder structure in the project or shell Documents node in the Document Manager. You can open folders to view contents. You may select multiple documents or folders to attach. All documents within folders and subfolders will be attached in a flat file. Documents with duplicate files names will not attach.

IMPORTING DATA INTO UNIFIER

. . . .

Unifier's integration feature imports data into Unifier from an outside data source. Using this feature, you can import data from an outside application, such as an accounting system, into Unifier, and thereby, create records and line items. Importing is most effective in cases where you want to populate Unifier with a large amount of information that already exists in the other system.

This section discusses importing data into Unifier using CSV files. You can use CSV files to create records and line items for business processes and most of the Unifier managers. It is largely useful for converting a company's legacy data into Unifier.

> New records can also be created by XML integration via Web Services. For more information about Web Services integration, see the *Integration Interface* guide. XML integration via Web Services must be coordinated with a Skire representative; contact Skire Customer Support.

To use this feature, the business process or manager must include an integration interface that was designed in uDesigner. Separate integration interfaces are designed for each BP or manager, each specifying what fields will be populated when the new records or line items are created.

The integration interface feature supports:

- Cost BPs (except for Payment Applications)
- Line item BPs
- Simple BPs
- Text BPs
- Document BPs and documents
- Asset Manager classes
- Code-and-record-based configurable manager classes
- Planning Manager planning items
- Shell Manager shells
- Space Manager levels and spaces

Note: *Some business processes do not support integration and data import is not available for these business processes.*

OVERALL STEPS FOR IMPORTING DATA

Here is an overview of the steps involved in importing data from CSV files to create new records and line items.

1   **Export the CSV template file to your machine.**

 The CSV file contains the correct integration structure, with each row corresponding to a new record, and each column a field to be populated on the form.

2   **Modify the CSV file.**

 Add new record data into the template CSV file, one record per row.

3   **Import the modified CSV file.**

After completing the CSV file, you can then import it back into Unifier to create the new records or line items. During the import process, Unifier validates the data. If the data passes validation, the new records or line items will be created. If the data fails the validation, you can view or download the CSV file with the error summary.

> The import process runs in background, allowing you to continue your work during the import and validation process. The amount of records being imported will affect the processing time. You will be notified by e-mail once the process is complete and the records have been imported or errors have occurred.

EXPORTING THE CSV TEMPLATE TO YOUR MACHINE

To export an integration template

1   Display the toolbar with the Export button as follows:

To display the toolbar for this:	Do this:
A business process at the company level	Select the name of the BP wherever it resides in the Navigator: in the Company Logs node, the General log node, or Data Manager log node.
A business process at the project/shell level	Select the name of the BP wherever it resides in the Navigator: in the Project Logs node, the Information > General log node, or the Data Manager log node.
An asset class	In the Asset Manager node of the Navigator, select the asset class.
A planning item	In the Planning Manager node of the Navigator, select the planning item.
A class for a code-and-record-based configurable manager	In the [Manager] node of the Navigator, select the class.
A level type	In the Space Manager node of the Navigator, select the level type.
A space type	In the Space Manager node of the Navigator, select the space type.

2   Click the **Export Template** button and choose **CSV**.

3   Save the CSV file to your local drive.

EDITING THE CSV FILE

A CSV template looks similar to this:
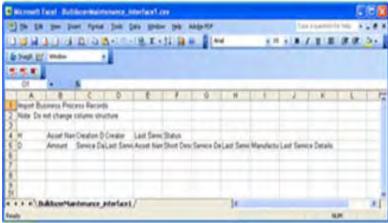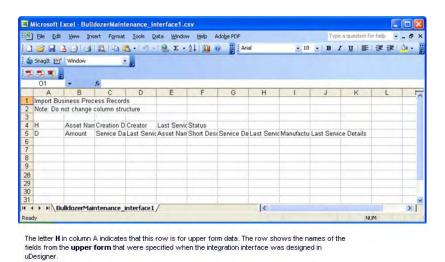
Figure 2-16 CSV template example

Each row corresponds to a new record, and each column is a field to be populated on the form.

To edit the CSV file

1   Open the CSV file in Microsoft Excel or a compatible application, such as a text editor or Notepad.

The letter **H** in column A indicates that this row is for upper form data. The row shows the names of the fields from the **upper form** that were specified when the integration interface was designed in uDesigner.

The letter **D** indicates that this row is detail form data. The row shows the names of the fields from the **detail form** that were specified when the integration interface was designed in uDesigner.

2   To add header (upper form) data to the file:

    a   Move your cursor to an empty line and type an **H** in column A.

> Do not add, move, or delete the columns in the CSV file.

    b   Press the **Tab** key to move to the next column and enter the value that you want to import for that field.

    c   Repeat step **b** for all the fields in the row.

3   To add detail form data to the file:

    a   Move your cursor to an empty line and type a **D** in column A.

    b   Press the **Tab** key to move to the next column and enter the value that you want to import for that field.

    c   Repeat step **b** for all the fields in the row.

4   If you have additional line item data that needs to be imported, repeat step **3** and its sub-steps until you have entered all the line items you want to import.

5   Save the file.

IMPORTING THE CSV FILE BACK INTO UNIFIER

Once you have edited and saved the CSV file, you can import it back into Unifier to create the new records or line items. During the import process, Unifier validates the data. If the data passes validation, the new records or line items will be created. If the data fails the validation, you can view or download a text file summarizing the errors.

To import the file into Unifier

1   Display the toolbar with the Import button as follows:

To display the toolbar for this:	Do this:
A business process at the company level	Select the name of the BP wherever it resides in the Navigator: in the Company Logs node, the General log node, or Data Manager log node.
A business process at the project/shell level	Select the name of the BP wherever it resides in the Navigator: in the Project Logs node, the Information > General log node, or the Data Manager log node.
An asset class	In the Asset Manager node of the Navigator, select the asset class.
A planning item	In the Planning Manager node of the Navigator, select the planning item.
A class for a code-and-record-based configurable manager	In the [Manager] node of the Navigator, select the class.
A level type	In the Space Manager node of the Navigator, select the level type.
A space type	In the Space Manager node of the Navigator, select the space type.

2   Click the **Import** button. The File Upload window opens.

3   Fill in the fields on the File Upload window and click **OK**.

Unifier checks the import process to verify that valid records were created. Specifically, it validates that:

- The import file format matches the integration interface design that was created in uDesigner.

- The imported data is for the correct BP (that is, that the data was imported into the same log as that from which you exported the CSV template file).

- The imported data is correct; that required fields contain data in the correct format, the data type is correct, the correct values were added for drop-down menus, etc.

If an error occurs, Unifier displays an error message telling you the error(s) that occurred during the import. You can re-open the CSV file, correct the error(s), and re-import the file.

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3 PROJECTS, PROGRAMS & COMPANY WORKSPACE

In this chapter

‣ *Accessing project, program, and company features*
‣ *Contacting other team members and administrators*
‣ *Configuring dashboard summary views of projects, programs, and company activities*
‣ *Working with uMail*
‣ *Creating and managing alerts*

WORKING WITH PROJECTS

. . . .

A project is a "collaboration space" that allows project users to collaborate on and coordinate the execution of a project. Related projects can be grouped together under a program. If you are a member of a project that is part of a program, you may be a member of that program.

As a Unifier user, you may be part of a sponsor company or a partner company (or possibly both). Sponsor companies can commission and administer projects and programs. Partner, or member, companies (e.g., subcontractors and vendors) work with sponsor companies in the successful completion of projects.

Note: *User access and permission levels for all functions are controlled by the Company Administrator. Contact your Company Administrator if you have questions regarding access.*

Within Unifier, a shell is a construct that contains sub-shells. Shells are like standard projects, but offer more functionality and flexibility in terms of how you work with them in Unifier.

Generic shells allow users to manage different modules. Projects are also shells, which are pre-defined in Unifier. The Shell Manager allows shell types to be defined in uDesigner. Administrators can later create one or more instances under each shell type in Unifier. Each instance can have its own business process, cost manager, reporting module, or other modules as needed. See Chapter 4, "Shells" for details on shells.

Open a project

Open a project to access the project functions. Projects are listed on the Projects tab. For details on navigation, see .

Figure 3-1 Example of navigation tabs

To access your projects
From your Home page, do one of the following:

- Click the **Projects** tab.
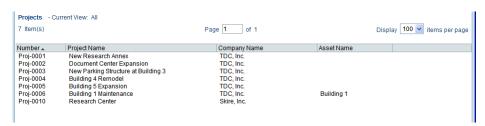
Figure 3-2 Projects log

The Project log opens, listing all of the projects to which you have access. The log shows:

- **Number:** The number assigned to the project.
- **Project Name:** The name of the project.

- **Company Name:** The sponsoring company for the project. This may be your own company or another company for which your company is a partner company in the project.

- **Asset Name:** If the project has been associated with a company asset, the asset will be listed in this column.

To open a project

Select a project from the Projects log and click **Open**. The Project Home page opens, providing an overview of the project.

When you open the Project Home page, the Navigator expands, providing access to project-level features and business processes.

Figure 3-3 Project Home page

View project location map

The Project Home page provides a link to an online map of the project location, as defined in the project properties.

To view the project location map

1   Open the Project Home page.

2   Click the **Location** address link. An interactive map of the project location opens.

3   You may scroll through the map or zoom in or out (upper left corner of the map window), or change views (select one of the options in the upper right corner):

- **Map:** Displays the map view.
- **Satellite:** Displays the aerial photograph view.
- **Hybrid:** Displays the aerial photograph overlain with map markings.

What you can do in a project

The Navigator displays the project-related Unifier features that you have permission to access. Depending upon the modules your company has set up and your access permissions, the following project functions are available in the Navigator.

Note: *The example below displays the default Navigator appearance. Company administrators can configure the User Mode Navigator to better suit business needs, for example, creating additional nodes to store business process records, renaming some of the nodes mentioned below, etc. Your navigator may differ, but the basic functionality will be the same.*

- **Summary:** The Project Summary provides a snapshot of the overall project. You can use the standard view or customize your own summary page. See "Working with the Project Summary" on page 37 for details.
- **Alerts:** You can create customized alerts to alert you to a condition or event in Unifier that you specify. See "Managing Alerts" on page 41 for details.
- **uMail:** An internal Unifier e-mail feature that allows Unifier project team members to communicate with each other and maintain a record of the communications. See "Working with uMail" on page 43 for details. For projects with View-Only or Inactive status, uMail is available for viewing, but you cannot send, edit or delete messages.
- **Collaboration (Tasks, Messages, Drafts):** Lists current business process tasks that have been assigned to you, that you have been copied on, and draft copies that you have saved. See Chapter 5, "Business Processes". Tasks and Drafts are not available for View-Only projects. Messages are available for View-Only projects, but you cannot add general comments.
- **Project Directory:** List of project team members. See "View the Project Directory" on page 49 for details.
- **General:** List of simple-type business processes. See Chapter 5, "Business Processes" for details.
- **Gates:** Displays project phase and gates information, and enables manual or automatic advancement of project phases. See "Working with Gates" on page 51.
- **Cost Manager:** Access project-level Cost Manager functions (cash flow, cost sheet, earned value, funding, schedule of values). Cost Manager is discussed in Chapter 7, "Cost Manager".
- **Document Manager:** Repository of project documents, allowing collaboration, revision control, markups, etc. See Chapter 10, "Document Manager".
- **Resource Manager:** Manage staff resources and role information. See Chapter 9, "Resource Manager".
- **Data Manager:** A collection of BP logs storing project-level business processes not stored in project logs. See Chapter 5, "Business Processes".
- **Schedule Manager:** Manage project schedules, and import other related schedule files. See Chapter 8, "Schedule Manager".
- **Project Logs:** Primary storage of transaction and other project business processes. See Chapter 5, "Business Processes".
- **Reports:** Access to system and user-defined reports. See Chapter 15, "Reports".

ABOUT PROJECT STATUSES

Your project can have one of four statuses:

Active: A live, in-progress project.

On-Hold: The initial project status. On-Hold projects are listed on the projects log, but you cannot work with them.

View-Only: View-Only projects can be viewed, printed, exported, and included in reports. You cannot modify any data in View-Only projects. This allows you to view past projects without allowing changes to these projects.

Inactive: Used to suspend project usage. Inactive projects are visible to Administrators, but not to end users. Only System and Project Administrators (users with Modify Status rights) can reactivate the project.

Note: *If automatic status update is enabled on a project, the status of the project can change from Active to an inactive status (On-Hold, View-Only, Inactive). The change of status is set up by the Administrator, and is based on defined triggering conditions. For example, if a project is close to exceeding its funding, it might make sense to put it On-Hold while funding matters are discussed. Your project administrator must manually change the status back to Active when you are ready to restart the project.*

The Project Administrator will receive e-mail notification when the status of a project changes. The change of project status could occur due to a manual change, bulk update, through Web Services or a CSV file, or through automatic update.

WORKING WITH THE PROJECT SUMMARY

The project summary provides a snapshot of the overall project. You can configure what information is displayed in your project summary. There are two available views of the project summary:

Standard View: This system-generated summary summarizes schedule, cost, task, and project record information.

User View: You can customize the project summary to display virtually any reportable project-related information in table or graphical format. The summary information is pulled from summary-type, user-defined reports or from preconfigured standard data-type reports.

You can drill down to the respective log window by clicking a hyperlink from a summary report block.

To access the project summary

1   Open a project and click **Summary** in the Navigator.

2   Click the **View** menu, and choose **Standard** to view the standard view or **User** to view the user-defined view.

3   Click a link to jump directly to the respective log window.

View project summary standard view

The standard view of the project summary displays an overview of the project:

  • Project name and number, project administrator, and the number of people on the project.

- Project schedule data, including schedule tracking information.
- Cost data relative to expenses incurred on the project to date from the project cost sheet. Total amounts are displayed and rounded to the nearest integer. "Invalid" displays for any entry that contains an invalid entry in a Cost Manager formula.
- Current tasks and their progress.
- Project-level business process records. Click a business process on the list to display the number of records that exist for that business process.
- From the **View By** selection list, choose **Status** (displays the total number of project records for each business process and the current status) or **Originating Company** (displays the total number of project records originated per company, listed by company short name; applicable if your partner companies can create business processes for the project).

Configure your project summary

To help you keep track of the information that is most useful to you, you can customize the information that is displayed in the Project Summary window. Each part of the summary page is called a block. The data shown in a block can be in table form, a bar graph, or a pie chart. The summary page displays blocks on the right or the left.

You can add, edit, view, or delete summary reports as described below. You can customize how the summary report data is arranged in the Project Summary window, including displaying it on the left or right column, arranging the order of the display, and displaying the information as a table, bar chart, or pie chart.

The data that is displayed in this view is generated from summary-type, user-defined reports. Each block represents one report. See Chapter 15, "Reports" for more information.

To add reports to the user view

1 Create summary-type reports that include the information that you want to display in the summary. See "Accessing User-Defined Reports" on page 627 for more information.

2 Open a project, and then click **Summary** in the Navigator. The Summary window opens.

3 Click the **View** menu and choose **User**.

   The initial reports included in the summary are displayed in table format. You have the option to modify how these reports display, remove them from the summary view, or add other summary reports.

4 From the **Edit** menu, choose one of the following:
   - **Left Column:** To add information to the left side of the window
   - **Right Column:** To add information to the right side of the window

   The Left Column Blocks or Right Column Blocks window opens.

5 Do one of the following:
   - To add a user-defined summary report, click **Add Custom**. The Custom Summary Block window opens. Complete the window and click **OK**.
   - To add a preconfigured, standard data-type report, click **Add Standard**. The Standard Summary Block window opens. Complete the window and click **OK**.

The report will be added to the Blocks window.

6   Click **Close**. The Project Summary - User View window will update to include the new
report.
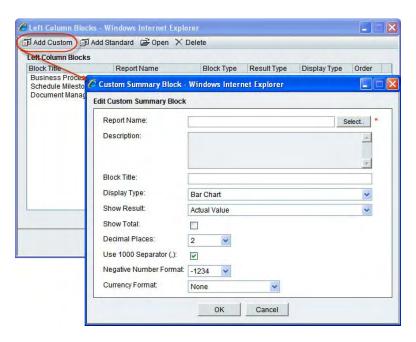
*Figure 3-4 Add Custom report: Custom Summary Block window, which allows you to add a user-defined summary
report to the project summary.*

In this field	Do this
Report Name	Click the **Select** button. The User-Defined Reports window opens, listing the available summary reports. Select a report from the list, and click the **Open** button. (If the list is long, you may click the **Find** button and enter search criteria to help locate a specific report.) **Note:** Reports that are already used in the summary page are shown with a check mark. You can use a report more than once. For example, you might want to include the same report in both table and pie chart formats.
Description	This is populated automatically with the report description, if one exists.
Block Title	This will appear over the data on the summary page. By default, the field will show the report name, but is editable.
Display Type	Choose to show the data as a bar chart, pie chart, or table format.
Show Result	Choose one of the following: • **Actual Value:** Shows the actual value of what is being reported (number of records for a particular BP type, etc.). • **Percent distribution of total:** Calculates the value as a percentage of the total (the percentage of total records to which a BP type corresponds, etc.).
Show Total	Select this checkbox if you want to display the total value of the data. This will vary, depending on what data is used in the report. For example, it may include the total number of records, total currency amount, etc.

Figure 3-5 Standard Summary Block window, which allows you to add a preconfigured standard report to the project summary.

In this field	Do this
Report Name	This field will auto-populate with the selection from the Report On field.
Data Type	Choose a standard data type to add to the summary. Choices include:
	• Business Process • Active Task Information • Document Management • Users • List of project business processes
Report On	The selection list is dependent on what is chosen from Data Type. Choose from the selection list. The Report Name field will auto-populate with the standard report.
Block Title	This will appear over the data on the summary page. By default, the field will show the report name, but is editable.
Display Type	Choose to show the data as a bar chart, pie chart, or table format.
Show Result	Choose one of the following: • **Actual Value:** Shows the actual value of what is being reported (number of records for a particular BP type, etc.). • **Percent distribution of total:** Calculates the value as a percentage of the total (the percentage of total records to which a BP type corresponds, etc.).
Show Total	Select this checkbox if you want to display the total value of the data. This will vary, depending on what data is used in the report. For example, it may include the total number of records, total currency amount, etc.

Available project-level standard reports

Name	Drill down to	Default
<BP Name> Count by Status	BP Log	
<BP Name>% by Status	BP Log	

<BP Name> Count by Company	BP Log	
<BP Name>% by Company	BP Log	
<BP Name> Count by User	BP Log	
<BP Name>% by Creator User	BP Log	
<BP Name> - Tasks by User	Project ◊ Collaboration ◊ Tasks	
<BP Name> - Tasks All Users	Project ◊ Collaboration ◊ Tasks	
Record Count per BP (for current user)	BP Log based on which BP link was clicked	Yes
Record% per BP	BP Log based on which BP link was clicked	
All Users (by company)	Project ◊ Project Information ◊ Project Directory	
Logged in Users (by company)	Project ◊ Project Information ◊ Project Directory	Yes
Current User Task Count	Project ◊ Collaboration ◊ Tasks	Yes
All User Task Count	No drill down	
Total Documents	Drill down to Document Manager	Yes

Arrange blocks on the project summary

To manage blocks on the Project Summary - User View

1   Open the Project Summary - User View.

2   From the Edit menu, choose one of the following:
    • **Left Column:** To add information to the left side of the window
    • **Right Column:** To add information to the right side of the window

    The Blocks window opens. Blocks are listed in the order in which they appear on the page.

3   To move a block, select it and click **Move Up** or **Move Down**.

4   To delete a block, select it and click **Delete**.

5   To change the display type, title, or other block property, select the block and click **Open**.
    Make changes as necessary and click **OK**.

Print project summary

You can print both the user view and the standard view of the project summary.

To print a project summary

1   Navigate to the project summary.

2   From the File menu, click **Print Preview**. The preview window of the summary displays.

3   Click the **Print** icon in the upper right corner of the window.

MANAGING ALERTS

You can create customized alerts to alert you to a condition or event in Unifier that you specify.
For example, you might set up an alert that will send you an e-mail or uMail message letting
you know that a fund amount on the funding sheet has reached a certain level.

Alerts are created by creating an alert-type user-defined report.

Create and manage alerts

To create an alert

1   Create an alert report in user-defined reports. See *"Accessing User-Defined Reports" on page 627* for details.

2   Open a project and click **Alerts** on the Navigator. The Alerts log opens.

3   Click **New**. The Alert window opens. Complete the window as described in the following table.

4   Click **OK** to close the Alert window.
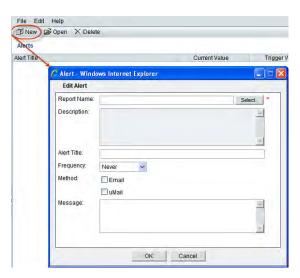
Figure 3-6 Alert window

In this field	Do this
Report Name	Click the **Select** button. The list of user-defined alert reports for the project opens. Select a report from the list, and click the **Open** button. (If the list is long, you may click the **Find** button and enter search criteria to help locate a specific report.) **Note:** Reports that are already used to create an alert are shown with a check mark. You can create more than one alert for each report.
Description	This is populated automatically with the report description, if one exists.
Alert Title	This will appear as the title of the alert in the log and on the alert sent. By default, the field will show the report name, but this is editable.

Frequency	Choose the frequency that you want the alert to be sent when the trigger condition is met: • **Never:** Alerts will not be sent. • **Hourly:** Alerts will be sent every hour, at about 20 minutes past the hour. • **Daily:** Alerts will be sent daily at about 2:20 a.m. • **Weekly:** Alerts will be sent on Mondays at about 2:20 a.m. • **Monthly**: Alerts will be sent on the first day of the month, about 2:20 a.m. Times may vary somewhat. The times noted above refer to server time, that is, the time according to the Unifier server being used. (Skire servers operate on Pacific Standard Time.). **Note:** If you choose any frequency other than Never, you must specify a method and message.
Method	You may select one or both of the following methods to be notified of the alert: Email (the e-mail on your user profile will be used) or uMail.
Message	Type a message that you want to be included in the alert. Remember that this is an alert that only you will see, so enter as much or as little detail as you need.

To edit alerts

1   Open a project and click **Alerts** on the Navigator. The Alerts log opens.

2   Select an alert and click **Open**. The Alert window opens.

3   Make changes to the alert as needed and click **OK**.

To delete an alert

Open a project and click **Alerts** on the Navigator. The Alerts log opens. Select an alert and click **Delete**.

WORKING WITH UMAIL

uMail is an internal Unifier e-mail feature that allows Unifier project team members to communicate with each other and maintain a record of the communications.

The uMail interface is similar in functionality to common e-mail programs such as Microsoft Outlook. uMail supports file attachments and can be sent between project team members and to external e-mail addresses. External e-mail cannot be sent directly to uMail.

A copy of every uMail communication is saved in a central folder (Public Items) controlled by the project administrator. These communications become part of the project record. Project or company administrators must grant users permission to access to the Public Items folder. Depending upon permissions, users can view all Public Items messages or only those in which they participated (sent or received). Permission can also be granted to deleted items in the Public Items folder. Once deleted, they are not recoverable. Note that users who sent or received messages deleted from the Public Items folder may still retain copies of these messages in their own Inbox or Sent folder.

You can also link uMail messages to specific business process records. See Chapter 5, "Business Processes" for more information.

Access uMail

The uMail feature is project-specific, and the full functionality is accessed at the project level. A cross-project listing of your Inbox and Sent items can also be accessed in the uMail node directly under Home.

To access project uMail

1   Open a project.

2   In the Navigator, click **uMail**. The uMail folders expand:
  • **Drafts:** Displays uMail messages that you have drafted but not yet sent.
  • **Inbox:** Displays messages sent to you.
  • **Sent Items:** Displays messages that you have sent.
  • **Deleted Items:** Displays items that you have deleted from one of the other folders.
  • **Public Items:** Stores copies of all uMail messages sent between project team members. Access to the Public Items folder must be granted through permission settings.

To view all of your uMail messages across projects

1   In the Navigator, click **uMail** under the Home node. All messages residing in all project uMail Inbox and Sent folders are listed.

2   To open a listed message, select it from the list and click **Open**. You will be directed to the Project uMail Inbox or Sent folder containing the message, and the message will open.

To search for a specific uMail message across projects

1   In the Navigator, click **uMail** under the Home node. All messages residing in all project uMail Inbox and Sent folders are listed.

2   Click the **Find** button.

3   Enter search criteria in the Subject Containing or Message Containing fields in the upper portion of the log window.

4   Click **Search**. The log will list the messages meeting the search criteria entered.

Send and receive uMail

uMail functionality is similar to common e-mail programs. In uMail, you can attach files, format text, flag the message, compose and save a draft of your response without sending it, and preview your message in a browser.

You can correspond with your Unifier project team members through uMail, and send uMail to external e-mail addresses. External e-mail users cannot send e-mail directly to uMail.

Note: uMail messages can be linked directly to related business process records. See the Chapter 5, "Business Processes" for more information about linking uMail messages.

To send a uMail message

1   Open a project and select any uMail folder.

2   Click **New**. A message window opens.

3   Choose the recipients of the uMail message by doing any of the following:

- Click **To** to select the primary recipients. The User/Group picker opens displaying project users. Select recipients from the **Select Users** list, and click **Add**. Click **OK** to close the picker.

- To send a copy to another recipient, click **Cc**, and choose the recipients from the User/Group picker.

- To send a copy to an external e-mail address, enter the address in the External Cc field. Separate multiple external addresses with a semicolon (;). The recipient will see Unifier Notification in the From field, and will not be able to reply directly.

- To send a blind copy (Bcc), click the **View** menu and select **Bcc Fields**. The Bcc button and External Bcc field become available on the uMail message window.

4   Type the subject of the message in the Subject field.

5   Type the body of the message in the text field.

6   Click **Send** to send the message.
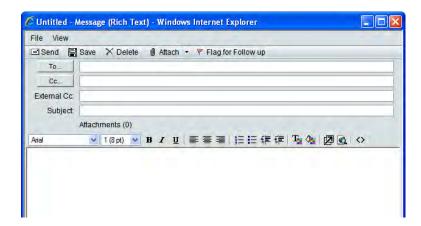
Figure 3-7 New uMail message

To view or respond to a uMail message

1   Access uMail by doing one of the following:

- Open a project and select the **uMail Inbox** folder. The Inbox lists all messages that have been sent to you. Unread messages are shown in bold text.

- From directly under the Home node, click **uMail**. All sent and received uMail messages across projects are listed. Unread messages are in bold text.

2   Double-click on a listed message to view it. The message opens.

3   To respond to the message, do one of the following:

- To send a reply to the sender, click **Reply**.

- To send a reply to the sender and other recipients of the original message, click **Reply to All**.

- To forward the message to another recipient, click **Forward**.

Note: Any file attachments will remain on forwarded messages.

4   Type your response and click **Send**.

To attach files to a uMail message

1   Open the uMail message.

2   Click **Attach** and choose one of the following:

- **My Computer:** Attaches the file from your local system. The procedure is the same as for uploading files to the Document Manager and depends on your File Transfer option.
- **Unifier Folder:** Attaches documents from the Document Manager. The window opens, displaying the Project Documents files and folders. Select the files and folders to attach and click **OK**.

   Note: Folders are not attached. The contents of selected folders are attached in a flat list. Documents with duplicate file names will not attach.

3   Click **OK** to add the file, and click **OK** to close the General Comments window.

   Note: You can also send a copy of a BP form from directly within a completed BP form. Unifier will automatically create a PDF copy and allow you to send it through uMail (see Chapter 5, "Business Processes").

To flag a message for follow up

1   Open the uMail message.

2   From the uMail toolbar, click the **Flag for Follow up** button.

3   Select a flag remark from the **Flag to** list. All flags appear in the uMail log as a red flag. When the recipient opens the message, the specific flag remark is shown across the top of the message.

4   To remove the flag, click the **Flag for Follow up** button, and then click **Clear Flag**.

To format uMail text

1   Open the uMail message.

2   Select the text you want to format within the body of the message.

3   On the Formatting toolbar, choose the formatting to apply to the text.

To search for a uMail message

1   In the Navigator, click on one of the uMail folders.

2   From the toolbar, click the **Find** button. The Find box expands above the log.

3   Do any of the following:

- To search by the recipient (To field), click the **Select** button and choose the user from the User/Group picker.
- To search by subject, enter a word or phrase in the **Subject Containing** field (partial entries are acceptable).
- To search by message content, enter a word or phrase in **Message Containing**.

- You can further refine the search by clicking the Items that are: drop-down list and choosing Read or Unread.

4 Click **Search**. The messages meeting your search criteria will be listed in the log.

To delete uMail messages

1 Do one of the following:
- From a uMail log, select the message and click **Delete**.
- From within a uMail message, click **Delete** on the toolbar.

The message is moved to the project's Deleted Items folder.

2 To permanently delete a message, select it from the Deleted Items folder and click **Delete**. Click **Yes** to confirm that you are permanently deleting the message.

   Note: *When you delete a message from your account, a copy of the message remains in the central project record: the Public Items folder. Messages deleted from the Public Items folder are permanently deleted.*

Link uMail messages to business process records

uMail messages can be linked directly to BP records through the Linked uMails link at the bottom of the BP form. See Chapter 5, "Business Processes" for more information.

Note: *This option is available only in uDesigner BPs that have been set up to accommodate linked uMail messages. The ability to attach messages or view attached messages depends on the user's uMail View permissions. Reply, reply all, and forward messages sent from a linked uMail will also be automatically linked to the BP.*

To view the list of BP records to which a uMail message is linked

1 Open the uMail message.

2 If the message is linked to a BP record, the upper portion of the message will display the following:

"This uMail and any future replies are linked to records. Show list" (where Show list is a hyperlink).

3 Click on the **Show list** hyperlink to view the list of BP records to which the uMail is linked.
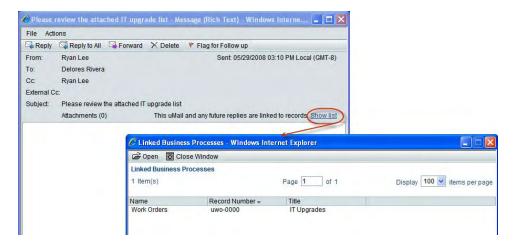
Figure 3-8 Linked BP list

COLLABORATING WITH PROJECT TEAM MEMBERS

Unifier helps you to collaborate with your fellow team members through business processes.

About tasks, messages, and drafts

Your tasks, messages, and drafts are business processes that are in process and with which you are involved. When you are part of a business process workflow, or have been invited to participate in a discussion group within a business process, you are assigned a task. Messages are business processes that you have been sent a copy but do not need to take action. Drafts are business processes that you have worked on and saved but have not yet sent.

For a complete discussion of tasks, messages and drafts, See Chapter 5, "Business Processes".

To access project-related tasks, messages, and drafts
Open a project, then do one of the following:

- From the Home page, click one of the items requiring your attention.
- In the Navigator, click **Collaboration**, then click **Tasks**, **Messages**, or **Drafts**.

View project information

Project information consists of the Project Directory and the General nodes. There are two subnodes in the Project Information node in the Navigator:

- **General:** Log of general information business process records that may have been added. For more information, see Chapter 5, "Business Processes".
- **Project Directory:** List of project team members. For more information, see "View the Project Directory" on page 49.

View the general (business process) log

These records originate as single-record business processes (that is, only one record exists for each one per project). This log is useful for project-specific information that only needs to be

documented on a single form. It is a way to easily categorize and find big-picture project information. An example is overall project data or descriptions.

For more information about working with these and other business process forms, see Chapter 5, "Business Processes".

To access the general BP log

1 Open a project, and then click **Project Information > General**. The log displays any available records.

2 To open a record, select it and click **Open**.

View the Project Directory

The Project Directory lists contact information for your fellow project team members.

To view the Project Directory

1 Open a project.

2 In the Navigator, click **Project Information > Project Directory**. The log lists all of the members of the project team and their contact information.

> **Note:** *A printed version of the Project Directory can be generated using user-defined reports. (See Chapter 15, "Reports" for more information about generating a user-defined report.)*

Search for project team members

If there are many project team members, you can use the search function to help you find a particular member.

To find a project team member

1 Open the Project Directory and click **Find**.

2 Choose which information to search by in the **Search By** selection list (for example, First Name).

3 Enter search criteria in the **Search for** field (for example, enter all or part of the first name).

4 Click the **Search** button.

Contact project team members

You may view the contact information of fellow team members and even send e-mail or uMail from within Unifier.

To view a team member's user profile

1 In the Project Directory, select the user from the list and click **Open**. The View User Profile window opens.

2 In the Contact Information selection list at the top of the window, choose one of the following:

- **Current Project:** Displays contact information specific to the current project, such as an on-site address or cell phone.
- **Company Contact Information:** This is the member's company contact information.

To send an e-mail using an external e-mail program

Do one of the following:

- In the Project Directory, select a team member's name and click **Send e-mail**.
- From the User Profile window, click the e-mail address.

This will open an e-mail dialog box using your default e-mail program (for example, Microsoft Outlook). The To: field will be populated automatically with the member's e-mail address. E-mail sent through your external e-mail program will not be saved as part of the Unifier project record.

Note: *You may also contact a team member using uMail. see "Working with uMail" on page 43.*

ADDING AN IMAGE

In many forms, you can add an image to your project. For example, you can add an image that shows progress on the project information record, pictures of assets related to a specific asset record, or a photo of an employee in the Resource Manager. You can add images to attribute forms in shells, projects, companies, and BPs.

Add an image

If the Image picker functionality has been added to your project in uDesigner, forms with the functionality display the image name and a virtual box that will hold the uploaded image.

Note: *The image name is based on the data element name provided in uDesigner.*

To add an image

1   Click **Upload Images** in the toolbar at the top of the form.

Valid image file types are:

- .jpg
- .jpeg
- .gif
- .png
- .tif

2   Browse for the image to upload and click **OK**.

You can change the image by replacing it with another uploaded image. Images display on the HTML or PDF formats of printed forms. They display in print preview as well. The Image picker can be added to all forms except for those in the Cost Manager, Generic Cost Manager, Schedule Manager, and the Document Manager.

ADDING A HYPERLINK

In many forms, you can add a hyperlink to your project. For example, you can add a hyperlink to equipment documentation, details on a resource, or external websites that contain information pertinent to a BP record. You can add hyperlinks to attribute forms in shells, projects, companies, and BPs.

Add a hyperlink

If the Hyperlink picker functionality has been added to your project in uDesigner, forms with the functionality display a hyperlink name, such as vendor website.

To add a hyperlink

1   Click on the hyperlink area on the form.The Hyperlink window displays:

2   Enter the hyperlink name and the URL. Only the URL is mandatory. If you enter the name and the URL, the hyperlink displays as the name you entered. If you enter the URL only, the hyperlink displays as the URL. The protocols HTTP and HTTPS are the only protocols allowed. FTP is not supported for hyperlink creation on forms.

   Note: *The URL should not reference the same domain that Unifier is using for operation. If you attempt to use the same domain, a warning message will result.*

3   Click **OK**.

To reset a hyperlink

1   Click on the hyperlink area on the form. The Hyperlink window displays.

2   In the Hyperlink window, click **Clear**. This will remove the existing hyperlink.

3   Enter a new hyperlink name and URL.

4   Click **OK**.

WORKING WITH GATES

About Gates

Gates provides a structure to assess the quality and integrity of a project throughout its life cycle.

Gates are, in essence, acceptance reviews following which a project can advance to the next phase in the project life cycle. For each phase of the project, a series of gate conditions are defined and tracked. Each gate condition is evaluated against actual project data and is marked complete if conditions are met. Once all conditions are complete, the project moves to the next phase either automatically or manually, based on the configuration.

Phases and gate conditions are configured in the Gates Setup in Administration Mode.

View the Gates dashboard

The Gates dashboard allows you to:

- Monitor the progress of project phases
- View phase conditions and their definitions
- Run a gates process
- Manually override gate conditions
- Manually advance a project phase

To access Gates

In User Mode, navigate to **Project (Standard) > Gates**. The Gates dashboard opens.
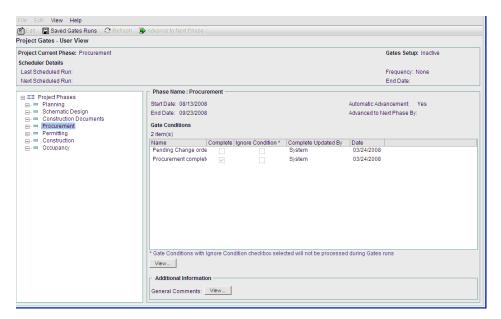
Figure 3-9 Gates dashboard

View gate condition details

To view gate condition details

1 Open the Gates dashboard.

2 Do one of the following:

- Select a project phase and click the **Edit** button on the toolbar. Click the **View** button directly below the **Gate Conditions** pane. (The Edit button is available if the gates setup is active.)
- Double-click a listed gate condition in the **Gate Conditions** pane of the dashboard (or select the gate condition and click the **View** button).

The Edit Gate Condition window opens. This is a view-only window. The **General** tab displays the data type associated with the gate condition. The **Query** tab displays the data element and trigger condition for this gate condition.
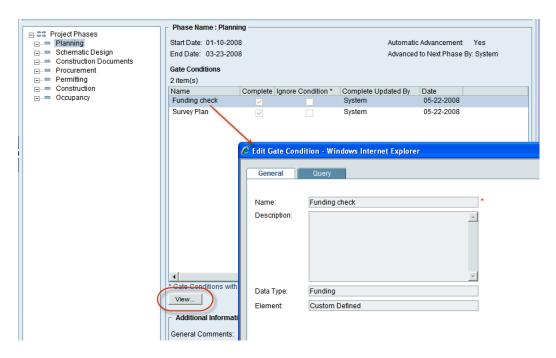
Figure 3-10 Edit Gate Condition window
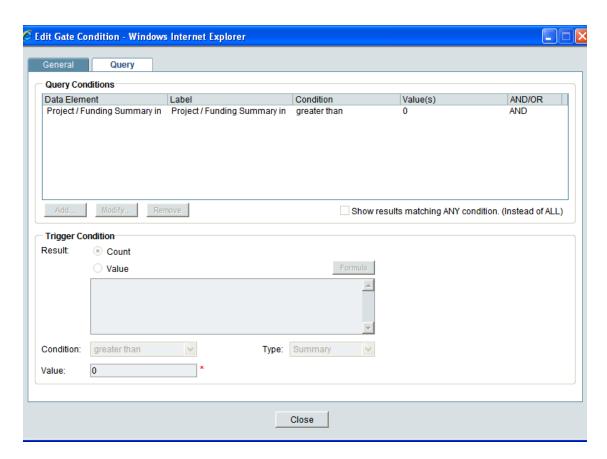
Figure 3-11 Edit Gate Condition window, Query tab

Manually run Gates validation (refresh)

The Refresh button runs the gate conditions validation, which is the same validation that is performed during scheduled runs. The dashboard is updated to show any changes to the gate conditions.

To manually run gates

1   Navigate to the Gates dashboard.

2   Click the **Refresh** button.

If a gate condition is met, the gate condition is marked as Complete. If all gate conditions are found to have been met for a project phase (and if Automatic Advancement is Yes), then the project phase will advance to the next phase.

Edit phase details

To edit phase details

1   Navigate to the Gates console.

2   Select a project phase and click the **Edit** button. The Edit Phase Detail window opens.

3 Do any of the following:

- Mark a gate condition as complete: Select the **Complete** checkbox next to the gate condition.
- Mark a completed gate condition as not complete: Deselect a selected **Complete** checkbox.
- Select and view gate condition details.
- Add or view general comments.
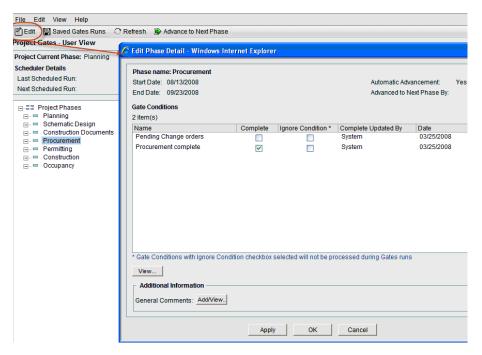
Figure 3-12 Edit Phase Detail window

This item	Does this
Gates Condition list	Displays the gate conditions that must be met for the selected phase.
Complete checkbox	Select the checkbox to manually flag the gate condition as complete.
Ignore Condition checkbox	Select the checkbox to override the gate condition requirement for this phase.
View button	Click the **View** button under the Gate Conditions list. The Edit Report window opens. This is a view-only window. The **General** tab displays the data type associated with the gate condition. The **Query** tab displays the data element and trigger condition for this gate condition.
General Comments Add/View	Click the button to add or view general comments associated with this project phase.

Advance to the next phase

After the gate conditions have been met for the current phase, you can manually advance a project to the next phase.

To advance the phase to the next phase

1   Navigate to the Gates console.

2   Click the **Advance to Next Phase** button.

3   A confirmation window opens asking you to confirm the phase advancement. Click **Yes** to confirm.

     The system will validate whether all gate conditions have been met for that phase. If all gate conditions for that phase are complete, the phase can advance to the next phase. If all of the gate conditions have not been met, you can:

     • Manually mark a gate condition as complete.

     • Click the **Ignore Condition** checkbox to override the gate condition requirements.

     • Select the phase and click the **Edit** button to view details about the phase and gate conditions, and therefore determine what needs to be done to meet the gate condition.

Return to a previous phase

To return to a previously completed phase and set it as the current phase

1   Select the phase to reset as the current phase.

2   Do one of the following:

     • Select a gate condition and edit it so that it is no longer complete.

     • Add a new condition so that the completed phase is no longer complete.

Add or view general comments

To add general comments in a project phase

1   In the Gates console, select the project phase and click the **Edit** button. The Edit Phase Detail window opens.

2   Click the **Add/View** button. The General Comments window opens.

3   Enter any comments in the Text Comment pane and click **OK**. Once you save a comment, it cannot be edited or deleted.
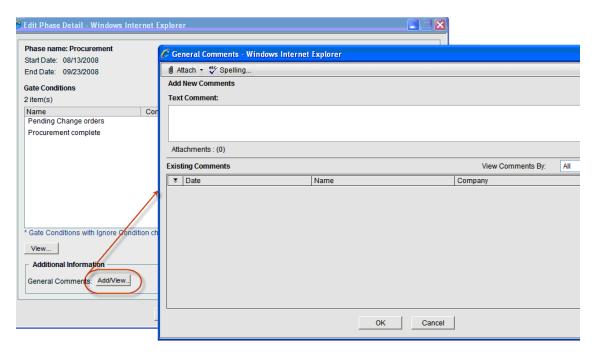
Figure 3-13 Gates General Comments window

To view existing general comments on a project phase

Do one of the following:

- In the Gates console, click the **View** button at the bottom of the screen. The General Comments window opens displaying existing comments.
- In the Gates console, select the project phase and click the **Edit** button. Click the **Add/View** button. The General Comments window opens. You can view existing comments or add a new one.

View saved Gates runs

You can view results from prior scheduled gates runs.

To view saved gates runs

1 Navigate to the Gates console.

2 Click the **Saved Gates Runs** button. The Saved Gates Runs window opens.

3 Select a saved gates run from the list and click **Open**. Results are available in a PDF file. PDF file names include the date and time of the gates run.

4 Choose to view or save the PDF file and click **OK**.

View the Gates audit log

To view the Gates audit log

1   Navigate to the Gates console.

2   Click the **View** menu and choose **Audit Log**.

The audit log captures Ignore Condition flags and general comments.

WORKING WITH PROGRAMS

. . . .

A project or shell is collaboration space allowing project users to collaborate on and coordinate the execution of a project. Related projects or WBS shells can be grouped together under a program. If you are a member of a project or WBS shell that is part of a program, you may be a member of that program. You can also be a member of a program without being a member of a project or shell.

As a Unifier user, you may be part of a sponsor company or a partner company (or possibly both). Sponsor companies can commission and administer projects or shells and programs. Partner, or member, companies (e.g., subcontractors, vendors) work with sponsor companies in the successful completion of projects.

Access a program

Related projects or WBS shells can be grouped together under a program. If you are a member of a project or shell in a program, you may also be a member of the program. Program membership is determined by the program administrator.

Open a program

Open a program to access the program level functions.

To access your programs
On the Projects or Shells tab, click **Programs**. The Programs log will list any programs of which you are a member.

To open a program
Select a program from the Programs log and click **Open**. The Program Home page opens, providing an overview of the project or shell.

View program location map

The Program Home page provides a link to an online map of the locations of the projects or shells in the program.

To view a program location map

1 Open the Program Home page.

2 Click the location link, labeled **Multiple**.

3 An interactive map opens, labeling multiple project or shell locations. You may zoom in or out or change views:
   - **Map:** Displays the map view.
   - **Satellite:** Displays the aerial photograph view.
   - **Hybrid:** Displays the aerial photograph overlain with map markings.

What you can do in a program

Depending upon the modules your company has set up and your access permissions, the following program functions are available in the Navigator.

Note: *The example below displays the default Navigator appearance. Company administrators can configure the User Mode Navigator to better suit business needs, for example, renaming some of the nodes mentioned below. Your navigator may differ, but the basic functionality will be the same.*

- **Summary:** Provides a snapshot of program information for the company. You can choose the standard view or customize your summary page (see "Working with the Program Summary" on page 60).
- **Cost Manager:** Access program-level Cost Manager functions: cost sheet and cash flow. Cost Manager is discussed in Chapter 7, "Cost Manager".
- **Schedule Manager:** Summarizes project or shell schedule data as it is rolled up to the program level. Schedule Manager is discussed in Chapter 8, "Schedule Manager".
- **Reports:** For creating and generating program-level user-defined reports, which are described in Chapter 15, "Reports".

WORKING WITH THE PROGRAM SUMMARY

The program summary provides a snapshot of the overall program. There are two available views:

- **Standard view:** System-generated summary that summarizes program information.
- **User view:** You can customize the program summary to display virtually any reportable project or shell related information in table or graphical format. The summary information is pulled from summary-type user defined reports or from preconfigured standard data type reports.

To access the program summary

1 Open a program and click **Summary** in the Navigator.

2 Click the **View** menu and choose **Standard** to view the standard view or **User** to view the user-defined view.

View program summary user view

The standard view of the program summary displays an overview of the program.
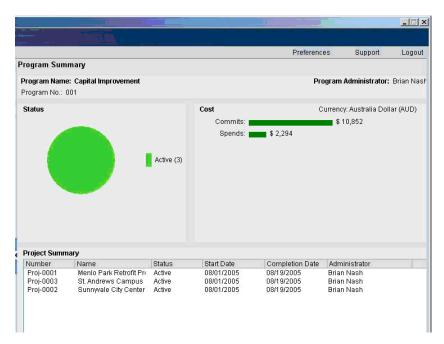
Figure 3-14 Program Summary window

Configure a program summary

Like the project or shell summary, you can customize the information that is displayed on the Program Summary window by defining blocks.

To add reports to the user view

1 Open a program, and click **Summary** in the Navigator. The Summary window opens.

2 Click the **View** menu and choose **User**.

The initial reports included in the summary are displayed in table format. You have the option to modify how these reports display, remove them from the summary view, or add other summary reports.

3 From the Edit menu, choose one of the following:
  • **Left Column:** To add information to the left side of the window
  • **Right Column:** To add information to the right side of the window

The Left Column Blocks or Right Column Blocks window opens.

4 Do one of the following:
  • To add a user-defined summary report, click the **Add Custom** button. The Custom Summary Block window opens. Complete the window and click **OK**.
  • To add a preconfigured, standard data type report, click the **Add Standard** button. The Standard Summary Block window opens. Complete the window and click **OK**.

The report will be added to the Blocks window.

5 Click **Close**. The Program Summary - User View will update to include the new report.

Available program-level reports

Name	Drill down to
<BP Name> Count by Status	No drill down
<BP Name>% by Status	No drill down
<BP Name> Count by Company	No drill down
<BP Name>% by Company	No drill down
<BP Name> Count by User	No drill down
<BP Name>% by Creator User	No drill down
<BP Name> - Tasks by User	No drill down
<BP Name> - Tasks All Users	No drill down
Record Count per BP (for current user)	No drill down
Record% per BP	No drill down
Current User Task Count	No drill down
All User Task Count	No drill down

To manage blocks on the Program Summary - User View

1   Open the Program Summary - User View.

2   From the Edit menu, choose one of the following:
   • **Left Column:** To add information to the left side of the window
   • **Right Column:** To add information to the right side of the window

   The Blocks window opens. Blocks are listed in the order in which they appear on the page.

3   To move a block, select it and click **Move Up** or **Move Down**.

4   To delete a block, select it and click **Delete**.

5   To change the display type, title, or other block property, select the block and click **Open**. Make changes as necessary and click **OK**.

Print program summary

You can print both the user view and the standard view of the program summary.

To print the program summary

1   Navigate to the program summary.

2   From the File menu, click **Print Preview**. The preview window of the summary displays.

3   Click the **Print** icon in the upper right corner of the window.

WORKING WITH THE COMPANY WORKSPACE

The Company Workspace node in the Navigator allows the collaboration between sponsor company users and partner company users at the company level. The company workspace is the home for managing company assets and resources, the company-level Document Manager and Cost Manager, company-level business processes, and more.

As a Unifier user, you may be part of a sponsor company or a partner company (or possibly both).

A sponsor company initiates projects in Unifier. A sponsor company may have many partners.

A partner company is a consultant, contractor, or vendor company that is associated with a sponsor company. A partner company may work with the sponsor company on some or all of the projects that the sponsor company commissions. Partner companies cannot initiate projects.

Note: *User access and permission levels for all functions is controlled by the company administrator. Contact your company administrator if you have questions regarding Unifier access.*

ACCESSING THE COMPANY WORKSPACE

Open the company workspace

Open a company workspace to access the company-level functions.

To open the company workspace

1   In the Navigator in User Mode, click the **Company Workspace tab**.

Figure 3-15 Example of navigation tabs

2   The Company log opens. The log lists all companies (sponsor company and partner companies) to which you have access. The log displays:
   • **Company Name:** The name of the company
   • **Short Name:** An abbreviation of the company name (the short name is used as a company identifier, for example, when importing uDesigner business processes)
   • **Contact Name:** The name of the company contact person

3   Select the company to open and click **Open**. The Company Home page opens. The Company Home page displays the following information:
   • **Location:** Company headquarters. Click the location link to view the location map.
   • **Contact Name:** Click on the link to view contact details for the company contact.
   • **Home Page URL:** Links to the company's website, which opens in another browser window. (This optional link is defined by the company administrator.)
   • **Help URL:** Links to an internal source of supporting information, such as a company intranet site. (This optional link is defined by the company administrator.)

Figure 3-16 Company Workspace Home page

View company location map

The Company Home page provides a link to an online map of the company locations, as defined in the company properties.

To view the company location map

1   Open the Company Home page.

2   Click the location link, **Multiple**.

3   An interactive map opens and displays the company locations. You may zoom in or out or change views:

   • **Map:** Displays the map view.
   • **Satellite:** Displays the aerial photograph view.
   • **Hybrid:** Displays the aerial photograph overlain with map markings.

WORKING WITH THE COMPANY DASHBOARD

Your Administrator can configure Company-level dashboards that Unifier you can use to view company data across projects or shells. Company-level dashboards are custom dashboards that are created externally (outside of Unifier), but can be configured for use within Unifier.

Figure 3-17 Custom Company-level dashboard, example

Using your User Preferences, you can specify that the Company-level dashboard displays as
your default login view. You can switch between the custom Company-level dashboard and
Unifier. You can access the Company-level dashboards to which you have View permissions.

Note: *You can print the Company-level dashboard if the print capability is resident in the imported SWF
file used to create the dashboard*

Set the Company-level dashboard as your default login view

You can set your User Preferences to use the custom dashboard as your default view when you
log into Unifier. See "Select Custom Company-Level Dashboard as Default Login View" on page
18 for details.

Choose available Company-level dashboards

To select a Company-level custom dashboard

1   Log into Unifier.

2   If your default view is set (in User Preferences) to be a Company-level custom dashboard,
the dashboard will display.

  If there is no dashboard that you can access, you will receive the message:

  *You do not have access to any Custom Dashboards. Contact your system administrator for further
assistance.*

3   If you have access to more than one custom dashboard, you can select a different dashboard
from the **Available Dashboards** drop-down menu in the upper left corner of the Unifier
window.

Figure 3-18 Available Dashboards drop-down menu

Switch from custom dashboard to Unifier

To switch from the custom dashboard to Unifier

1 Log into Unifier.

2 After you are done viewing the custom dashboard, click the **Go to User** mode link in the upper right corner of the Unifier window.

Figure 3-19 Go to User Mode link

3 You can click the **Go to Dashboard** link to return the Company-level dashboard.

Figure 3-20 Go to Dashboard link

WHAT YOU CAN DO IN THE COMPANY WORKSPACE

Depending upon the modules your company has set up and your access permissions, the following company functions are available in the Navigator.

Note: The example below displays the default Navigator appearance. Company administrators can configure the User Mode Navigator to better suit business needs, for example, creating additional nodes to store business process records, renaming some of the nodes mentioned below, etc. Your Navigator may differ, but the basic functionality will be the same.

- **Summary:** Provides a snapshot of project or shell information for the company. You can customize your summary page (see "Working with the Company Summary" on page 67).
- **Collaboration:** Similar to the project or shell level collaboration area, lists current company-level business process tasks, messages, and drafts business process logs. See Chapter 5, "Business Processes".
- **General:** This log stores company-level, simple-type business processes. This is discussed in detail in Chapter 5, "Business Processes".
- **Data Manager:** This is a collection of logs storing company-level business processes created in uDesigner. These are discussed in Chapter 5, "Business Processes".
- **Asset Manager:** Manage assets in asset sheets. See Chapter 12, "Asset Manager".

- **Cost Manager:** Access company-level Cost Manager functions as listed below. Cost Manager functions are discussed in Chapter 7, "Cost Manager".
- **Document Manager:** Repository of company-level and cross-project or shell documents, allowing collaboration, revision control, markups, etc. See Chapter 10, "Document Manager".
- **Planning Manager:** Create planning items and manage planning sheets. See Chapter 11, "Planning Manager"
- **Resource Manager:** Manage staff resources and role information. See Chapter 9, "Resource Manager".
- **Company Logs:** Primary storage of company-level business processes. See Chapter 5, "Business Processes".
- **Reports:** For creating and generating company-level, user-defined reports, which are described in Chapter 15, "Reports"

WORKING WITH THE COMPANY SUMMARY

The company summary provides a snapshot of the overall project or shell. There is one available view:

User view: You can customize the company summary to display virtually any reportable project or shell related information in table or graphical format. The summary information is pulled from summary-type, user-defined reports or from preconfigured, standard data-type reports.

To access the company summary
Open the company and click **Summary** in the Navigator. The Company Summary page opens.
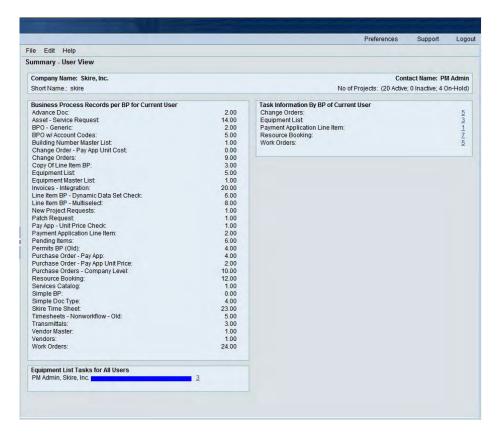
Figure 3-21 Company summary

Configure the company summary user view

Like project or shell and program-level summaries, you can customize the Company Summary window.

The data that is displayed on this view is generated from summary-type, user-defined reports. Each block represents one report. See Chapter 15, "Reports" for more information.

To add reports to the user view

1   Open a company, and then click **Summary** in the Navigator. The Summary window opens in user view. The initial reports included in the summary are displayed in table format. You have the option to modify how these reports display, remove them from the summary view, or add other summary reports.

2   From the Edit menu, choose one of the following:

   • **Left Column:** To add information to the left side of the window

   • **Right Column:** To add information to the right side of the window

   The Left Column Blocks or Right Column Blocks window opens.

3   Do one of the following:

   • To add a user-defined summary report, click the **Add Custom** button. The Custom Summary Block window opens. Complete the window and click **OK**.

- To add a preconfigured, standard data-type report, click the **Add Standard** button. The Standard Summary Block window opens. Complete the window and click **OK**.

The report will be added to the Blocks window.

4   Click **Close**. The Company Summary - User View window will update to include the new report.

Available company-level standard reports

Name	Drill down to
<BP Name> Count by Status	No drill down
<BP Name>% by Status	No drill down
<BP Name> Count by Company	No drill down
<BP Name>% by Company	No drill down
<BP Name> Count by User	No drill down
<BP Name>% by Creator User	No drill down
<BP Name> - Tasks by User	Home ◊ Tasks
<BP Name> - Tasks All Users	Home ◊ Tasks
Record Count per BP	No drill down
Current User Task Count	Home ◊ Tasks
All User Task Count	No drill down

To manage blocks on the Company Summary - User View

1   Open the Company Summary - User View.

2   From the Edit menu, choose one of the following:
- **Left Column:** To add information to the left side of the window
- **Right Column:** To add information to the right side of the window

The Blocks window opens. The blocks are listed in the order in which they appear on the page.

3   To move a block, select it and click **Move Up** or **Move Down**.

4   To delete a block, select it and click **Delete**.

5   To change the display type, title, or other block property, select the block and click **Open**. Make changes as necessary and click **OK**.

Print company summary

To print the company summary

1   Navigate to the Company Summary page.

2   From the File menu, click **Print Preview**. The preview window of the summary displays.

3   Click the **Print** icon in the upper right corner of the window.

Add an Image to a company

In many company areas, you can add an image to your forms. For example, you can add an image that shows project progress on the project information record, pictures of assets related to a specific asset record, or a photo of an employee in the Resource Manager. See "Adding an image" on page 50 for details.

Add a hyperlink to a company

In many forms, you can add a hyperlink to your forms. For example, you can add a hyperlink to equipment documentation, details on a resource, or external websites that contain information pertinent to a BP record. See "Adding a hyperlink" on page 51 for details.

4 SHELLS

In this chapter

‣ *About shells*
‣ *Shell navigation*
‣ *Accessing shell features*
‣ *Contacting other team members and administrators*
‣ *Working with uMail*
‣ *Creating and managing alerts*
‣ *Setting up gates*
‣ *Configuring the shell dashboard (custom and configurable)*

ABOUT SHELLS

Shells are similar to standard projects, but offer more functionality and flexibility. While projects are pre-defined in Unifier, shell types are defined in uDesigner. After a shell type is configured in uDesigner, you can use the shell types to create shell instances in Unifier. Each instance can have its own business process, Cost Manager, reporting module, or other modules as needed. Through permissions, the uDesigner administrator can control which users can access a shell type and can create shell instances. WBS Shells can be included in programs, just as standard projects.

You would use a shell instead of a standard project if you want to do the following:

• Add your own configurable attributes to the project
• Create a hierarchy of projects
• Work with projects that do not have a defined start and end date or confirmed cost

Shells can represent virtually any system, entity, or function, for example:

• IT System Organizational Hierarchy
• Capital ProjectMaintenance Project
• Business Unit Functional Area (i.e. Facility Management)
• Campus or Facility Complex Site / Property
• BuildingGeographical Area (e.g., Country or Region

SHELL RELATIONSHIPS AND HIERARCHY

With shells, you can create projects to show relationships and hierarchy or more accurately represent a real-world physical or organizational structure. This differs from standard projects in that if you have multiple projects that are related, they are all listed in the project log in a flat list at the same level. Although you can group them in programs, you cannot express the inherent relationship among projects. Shells can have a hierarchical relationship, with as many levels as needed. For example:

• Region (shell)
    • Properties (subshell)
        • Buildings (subshell)
    • Buildings (subshell)
    • Projects (subshell)

In this simple hierarchy, the shell Region was created and named in uDesigner. The Region shell has the subshells Properties, Buildings, and Projects. The subshell Properties also has a subshell called Buildings.

Note: In the above example, the subshell called Project is a shell of the type Project (Standard), not a standard project.

Before you start creating shell type templates and shell instances, plan the hierarchy with your administrator and uDesigner designer. The settings and configuration affect the shell's type and relationship to other shells. Planning helps you achieve the result that meets your business needs.

When creating a hierarchy, Unifier validates the shell-subshell relationships and prevents you from creating invalid or circular hierarchies. For example, the shell Region cannot contain a Region subshell, because a shell can never be a subshell of itself.

SHELL TYPES AND SHELL INSTANCES - SINGLE AND MULTIPLE

Shells can be single instance (one shell can be created for the shell type), or multiple instance (many shells can be created for the type). Single instance shells are represented in Unifier as a tab, at the same level as the Home tab. Multiple instance shells allow you to create more than one instance of a shell. For example, your top level shell might be called Europe, and is a single instance shell. This shell is represented as a tab. Under this shell, you could use multiple instance shell types to create instances of countries, such as Holland, France, and Hungary. There are templates for shells, just as there are templates for projects. The Shell Manager enables you to import and manage shells and sub-shells for users.

In the example shown below, Capital Project and Maintenance Management are examples of single instance shells. Note that they are displayed in the interface as tabs.

Figure 4-1 Example of single instance shells shown as tabs in Unifier

To access the various groups of shells, click the tab with the single instance shell name. The shell landing page displays and the sub-shells are list in the shell log in the lower area of the landing page.

Shell types are characterized by:

• A unique system ID
• Single or multiple instance
• Generic or WBS cost code

Shell instances are copies of shell types, and have these characteristics:

• An instance of a shell type must exist before the shell type is viewable in User Mode
• Shell type single can be a root node or a tab
• Shell type multiple populate levels in a hierarchy Shells and the Cost Managers

SHELLS AND THE COST MANAGERS

The uDesigner configuration controls shell relationships and also determines the type of cost manager that you can use with the shell.

• **Standard Cost Manager:** Uses WBS codes and works with standard projects as well as with shells. In uDesigner, the administrator can create a shell that uses WBS costing. This shell then has the same Cost Manager as a standard project, but provides the configurability and hierarchical aspects of a shell.

• **Generic Cost Manager:** Works with generic shells only. The Generic Cost Manager supports costing for projects that are not of a fixed duration or cost. This can include facilities management projects like:
    • Leases

- Janitorial support
- Building maintenance
- Landscape care
- Interior updates to a building

The ongoing management of a building does not have a start and end, and you cannot always project the ultimate cost. With the standard Cost Manager, costs have defined start and end dates for projects that have budgets, scope, and schedules. Cost is broken down by work in the various disciplines and is managed using WBS codes.

In the Generic Cost Manager, cost is time-based, not work-based, allowing you to manage costs that do not have a finite timeline, such as facility maintenance and upgrading. You can plan for these expenses during a time period, such as a quarter or year. Each shell has its own cost manager.

Unifier projects are similar to shells that use WBS cost codes. You can combine shells and shells that use the WBS cost codes together. You can also create a hierarchy of shells that consists of shells that use the Generic Cost Manager and those that use the standard Cost Manager (WBS cost codes).

In the Generic Cost Manager, cost is time-based, not work-based. You would use the Generic Cost Manager to work with the costs that do not have a finite time-line, such as those associated with maintaining and upgrading the building or facility. You can plan for these expenses during a time frame (such as a quarter or a year). The Generic Cost Manager enables you to track the time and corresponding budget for your ongoing facilities work. Each shell has its own cost manager.

The Generic Cost Manager does not include:

- Earned value
- Cash flow
- Funding
- General Spends SOV
- Pay App Sov

Note: *You cannot combine existing standard projects as described in Chapter 3, "Projects, Programs & Company Workspace" with shells. To get project-like functionality, use a WBS cost code shell.*

ABOUT THE SHELL LANDING PAGE

After a shell is created, you can open it by selecting it from the shell log window and clicking the **Open** button. The shell landing page displays.
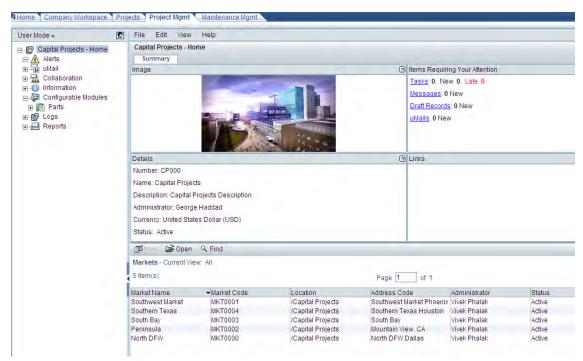
Figure 4-2 Example shell landing page

The top section of the landing page contains the Shell Dashboard. See the *"Configuring a shell dashboard" on page 109* for details on the shell dashboard, and instructions on how to configure the dashboard.

By default, the shell dashboard contains the following blocks:

• Image

• Items Requiring Your Attention

• Details

• Links

The bottom section of the shell landing page displays a mini-log window of sub-shells that have been created under currently selected shell.

For example, if you select the sub-shell South Bay, and then the further sub-shell Mathilda Northwest, this landing page displays.
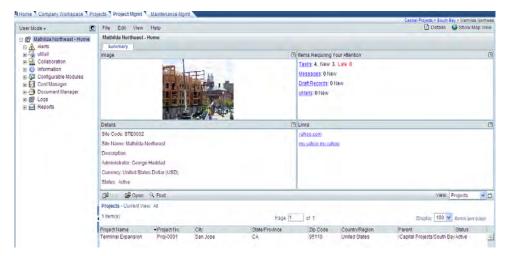
Figure 4-3 Shell landing page for sub-shell

SHELLS AND NAVIGATION

You can navigate between current shell, sub-shells, and instances through the use of:

• Tabs to move from one single instance shell to another

• The Landing Page mini-log at the bottom of the landing page

• The View drop-down menu to filter shells by types, which are displayed in the shell mini-log, based on the shells defined in the hierarchy

• Breadcrumbs to navigate up and down the shell hierarchy

• A geo-coded map, which allows you to click on map pins to navigate to associated shells

You can search for instances within a shell by using the Landing Page Log Find functionality.

A company-level user defined report can show the entire company navigation structure:
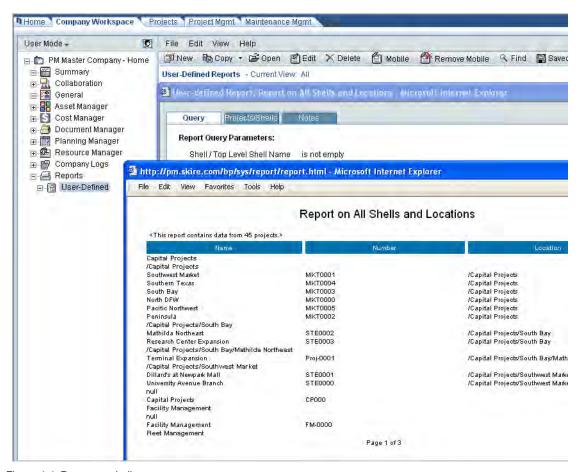
Figure 4-4 Report on shells

WORKING WITH THE SHELL DASHBOARD

Your Administrator can configure custom shell dashboards that you can use to view shell data across a shell hierarchy. Custom shell dashboards are custom dashboards that are created externally (outside of Unifier) as SWF files, but can be configured for use within Unifier. See the *Unifier Administration Guide*, Shells chapter, for details on setting up shell dashboards.
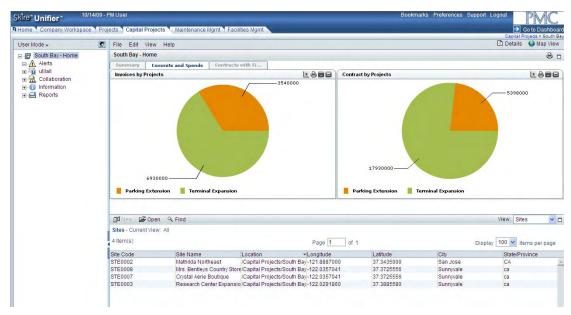
Figure 4-5 Shell dashboard example

From the shell dashboard, you can:

- Use drilldown functionality to access shell data
- Use filters on the dashboard so that all blocks in a particular dashboard can be filtered based on the same parameter
- Print the entire dashboard, or individual dashboard blocks
- Minimize and maximize the entire dashboard, or a block
- Use a free form dashboard layout, that gives you the ability to drag and drop dashboard blocks as an alternative to using predefined layout

Configure use of the custom shell dashboard

You can configure the use of a custom shell dashboard, rather than the default configurable shell dashboard. See the *Unifier Administration Guide*, Shell Setup chapter for information on setting up custom shell dashboards.

To configure the use of a custom shell dashboard

1   Navigate to a shell.

2   Choose **Edit > Dashboard**.

3   Select **Use Custom Dashboard**.
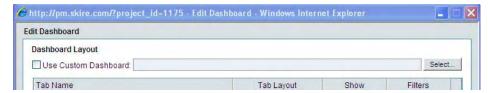
Figure 4-6 Use Custom Dashboard

4   Click **Select** and browse to select the SWF file for the custom shell dashboard.

5   Click **OK**.

Minimize the shell dashboard

Click the minimization icon to expand the dashboard to minimize the dashboard block. You can minimize the various blocks of the dashboard individually.

Figure 4-7 Minimization icon

Expand the shell dashboard

Click the expansion icon to expand the dashboard to fill the width of the dashboard. You can also expand the various blocks of the dashboard individually.

Figure 4-8 Expansion icon

Print the shell dashboard

Click the print icon to print the shell dashboard. You can also print the various blocks of the dashboard individually.

Figure 4-9 Print icon

Navigate through the shell block drilldown

Click the left arrow icon to navigate up the drilldown in a shell dashboard block.

Figure 4-10 Drilldown navigation icon

Set filters

Click the **Filters** button in the upper left corner of the dashboard. If there are filters defined, they will be listed, and enable you to filter the dashboard data by criteria defined in the **Edit > Dashboard Filters** window.

To set filters on a dashboard block

1   Click the **Filters** button. The Filters window opens.

Figure 4-11 Filters button

2   Enter the filter criteria:

Figure 4-12 Filters window

3   Click **OK**.

 The data view in the block changes to reflect the filtering.

4   You can turn off the filter by clicking the red *X* associated with the displayed filter criteria. The data view for the block returns to the default, unfiltered view.
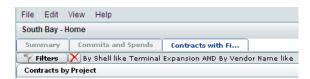
Figure 4-13 Red X to turn off filtering

Use drilldown

You can click on activated elements in dashboard blocks to drill into layers of data contained in the shell.

To drilldown into dashboard block data

1   Click a data representation in the data block. For example, you can drill down into the next configured level of data for a shell called Terminal Expansion by double clicking on that section of the chart:
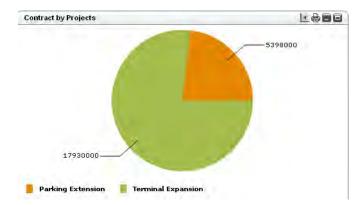
Figure 4-14 First level of data in a dashboard block

2   View the next level of data. In this example, after you double click on Terminal Expansion, the next level of data displayed looks like this:
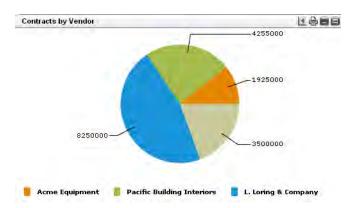
Figure 4-15 Next level of drill down

3   You can return to the original data view by clicking the left arrow icon.

Figure 4-16 Left arrow icon to navigate through dashboard drilldown

BREADCRUMBS

Breadcrumbs or a breadcrumb trail are a navigation technique used in many user interfaces. Breadcrumbs give you a way to keep track of your current location in Unifier when working with shells. As you navigate through the interface, breadcrumbs appear in the upper right corner of the current window. For example:

Figure 4-17 Example of breadcrumbs

Breadcrumbs provide links back to each previous page that the you have navigated through in order to get to the current page, finally providing a trail for you to follow back to your starting point.

Note: *Use breadcrumbs to navigate up and down the shell hierarchy.*

SHOWING MAP VIEW

You can view the shell instances that you create for a shell type on a map (provided the shell types were enabled for geocoding in uDesigner).

Show map view

To show a map view of shell instances

1   Navigate to a shell landing page.

2   Click the **Map View** button to display a map that shows pins for the location of the address of each shell instance. You can return to the dashboard by clicking **Dashboard View**.

Each shell instance that is currently displayed in the bottom log window is displayed as a pin on the map based on the location of the shell.

3   Click on a pin on the map to see Summary information about the shell.

Figure 4-18 Example of map showing Summary information

EXPAND THE SHELL LOG ON THE LANDING PAGE

You can expand the shell log (the bottom area of the shell landing page) by clicking the rectangle next to the View drop-down menu.

Figure 4-19 Rectangle icon to use to expand the shell log

ABOUT SHELL STATUSES

Your shell can have one of four statuses:

Active: A live, in-progress shell.

On-Hold: The initial shell status. On-Hold shells are listed on the shells log, but you cannot work with them.

View-Only: View-Only shells can be viewed, printed, exported, and included in reports. You cannot modify any data in View-Only shells. This allows you to view past shells without allowing changes to these shells. If a shell in a shell hierarchy changes to View-Only, you can still navigate up and down the shell hierarchy, and can create sub-shells in the hierarchy under the View-Only shell.

Inactive: Used to suspend shell usage. Inactive shells are visible to Administrators, but not to end users. Only System and Shell Administrators (users with Modify Status rights) can reactivate the project.

Note: *If automatic status update is enabled on a shell, the status of the shell can change from Active to an inactive status (On-Hold, View-Only, Inactive). The change of status is set up by the Administrator, and is based on defined triggering conditions. For example, if a shell is close to exceeding its funding, it might make sense to put it On-Hold while funding matters are discussed. Your shell administrator must manually change the status back to Active when you are ready to restart the project.*

The Shell Administrator will receive e-mail notification when the status of a shell changes. The change of shell status could occur due to a manual change, bulk update, through Web Services or a CSV file, or through automatic update.

WORKING WITH SHELLS

A shell allows users to collaborate on and coordinate the execution of a project.

Note: *User access and permission levels for all functions are controlled by the company administrator. Contact your company administrator if you have questions regarding access.*

Open a shell

Open a shell to access the shell functions.

To access shells
From your user home page, click a shell tab.

When you click a shell tab, the shell landing page displays. From the shell log, you can access the various subshells listed.

To open a shell
Select a shell from the shell log and click **Open**. When you open the shell, the Navigator expands, providing access to shell-level features and business processes.

To find a shell
Since shell hierarchies can be extensive, Unifier provides a Find feature to help you locate a specific shell.

1   Click the anchor shell tab that contains the shell you want to locate.

     The shell dashboard appears, and a "mini log" of sub-shells appears at the bottom of the window.

2   From the **View** drop-down list on the mini log, select the sub-shell you want to search.

3   Click the **Find** button.

     To accommodate the Find operation, Unifier collapses the dashboard to show only the mini log, and displays a Find window.

Figure 4-20 Find window

On the Find window, you can search for shells using a geocode search or you can search for shells using search *operators* on shell information. Operators such as "contains" or "is not empty" can help you narrow the search for the shell.

- To search using a geocode, enter an address, latitude, longitude, or radius
- To search on shell information using operators:

a   Choose the operator you want to use on the field, such as "equals," "does not contain," or "is empty."

b   Enter the value the field should contain.

4   Click **Search** (or press **Enter**). Unifier displays all the shells that meet the search criteria you entered.
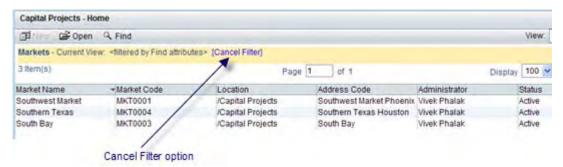
Figure 4-21 Filtered list with cancel filter option

If you choose to, you can cancel the find operation by clicking **[Cancel Filter]** or the **x** icon in the upper-right corner of the window. Unifier will restore the mini log to its unfiltered state.

5   When you have finished using the Find feature, click the **Restore** button to return the dashboard to normal view.

Auto-Create Shells (or Projects)

Unifier provides a type of business process that will create new shells (and standard Projects) from the upper form of the BP or from BP line items. The data necessary to create shells/projects is provided by this BP.

This BP creates shells and projects using the templates that have been designed for these shells/projects in Unifier, and provides the shell or project name, number, location, and status for the new shell/project, as well as any images and phase definitions, if they have been included. If the template includes links, these will be placed on the new shell/project.

> In order for auto-creation to occur correctly, be sure you understand the hierarchy of the shells in your company. This is important for placing the shell in the correct position in the hierarchy as well as choosing the correct template with which to build it. If the template is not the correct one, the creation will not succeed.

Works with Planning Items

If a Planning Item Picker has been included on this business process, you can link new projects/shells with planning items. Instead of linking a planning item to a project in the Planning Manager, this BP will automatically create the link when the project/shell is created, and data will begin to roll up to the Planning Sheet from the business processes in this project.

To auto-create a single shell or project

To auto-create a single shell or project, you need to fill out only an upper form.

1   Navigate to the level (such as Company Workspace or a shell) where the auto-creation business process resides.

2   In the Navigator, select the business process and on the right pane, click **New**. The business process opens.

Below is an example of a shell/project auto-creation BP.
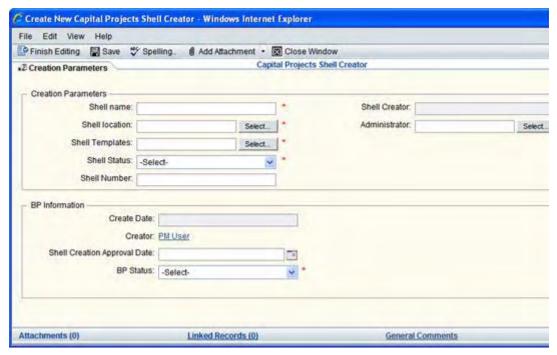
Figure 4-22 Example of a Shell/Project creation BP.

3   Enter a name and number for the new shell and select an administrator for the shell.

4   Specify where the shell should reside in the hierarchy by choosing a shell location as follows:

a   Click the **Select** button. A shell picker opens, showing the tabs of all the current anchor shells. For example:
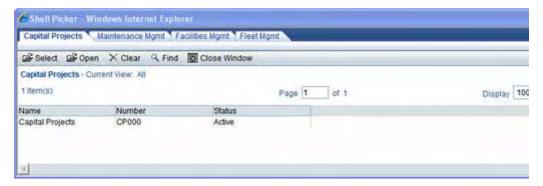
Figure 4-23 Shell picker

b   On the shell picker, click the anchor shell under which the new shell should reside. If the new shell should reside under a sub-shell, double-click the sub-shell.
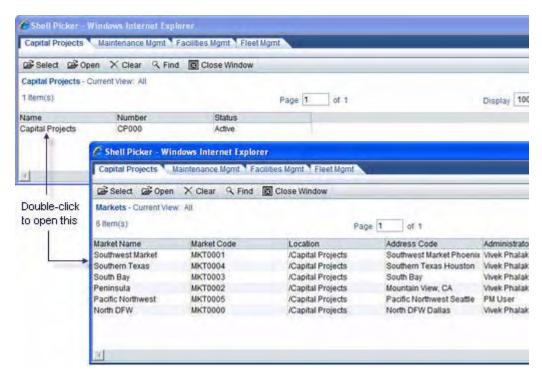
Figure 4-24 Shell Picker example

The sub-shell may contain other sub-shells. You can navigate to them by clicking the **View** button and selecting the sub-shell from the list.
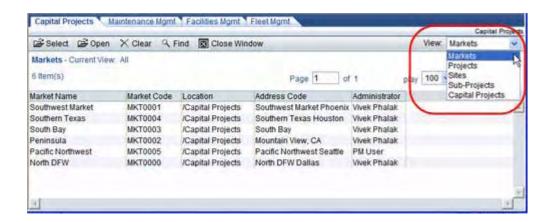
Figure 4-25 View menu

5 Specify the template that should be used to create the shell as follows:

    a Click the **Select** button. The Shell Template picker opens, showing a list of the templates that have been designed for the shell type this BP will create.

    b Select the template and click the **Select** button. The name of the template appears in the field on the form.

6 Specify the shell status, such as Active or On-Hold.

When the shell is created, this is the status it will be assigned.

> If you do not specify a status, Unifier will assign a status of **Inactive** to the shell and you will have to manually change the status to make the shell active.

7 Specify the BP status.

When this status reaches this BP's designated "terminal" status, it will automatically create the new shell or project and assign it the status you specified in step **6**.

8 Complete any other fields that have been included on the form.

9 Click **Finish Editing**.

When the business process reaches its terminal status, it will create a new shell/project using the template you specified on the BP form, and the new shell/project should appear in the hierarchy in its appropriate place.

To auto-create multiple shells or projects

To auto-create multiple shells or projects, you need to fill out an upper form, and create line items for each shell/project you want to create. Unifier will use each line item to create a separate shell/project.

1 Navigate to the level (such as Company Workspace or a shell) where the auto-creation business process resides.

2 In the Navigator, select the business process and on the right pane, click **New**. The business process opens.

Below is an example of a multiple shell/project auto-creation BP.

Figure 4-26 Example of a multiple Shell/Project creation BP.

3   Complete the upper form fields, including the status of the business process.

4   Click the **Add** button at the bottom of the window and choose **Detail Line Item**. A Line Item window opens.

Below is an example of a line item window for a multiple shell/project auto-creation BP.
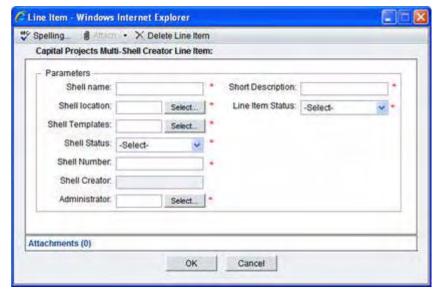
Figure 4-27 Example of a line item entry form, showing the fields that are required to create the shell or project

5   Enter a name, number, and description for the new shell and select an administrator for the shell.

6   Specify where the shell should reside in the hierarchy by choosing a shell location as follows:

    a   Click the **Select** button. A shell picker opens, showing the tabs of all the current anchor shells. For example:
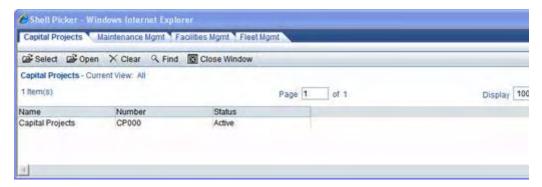
Figure 4-28 Shell Picker example

    b   On the shell picker, click the anchor shell under which the new shell should reside. If the new shell should reside under a sub-shell, double-click the sub-shell.
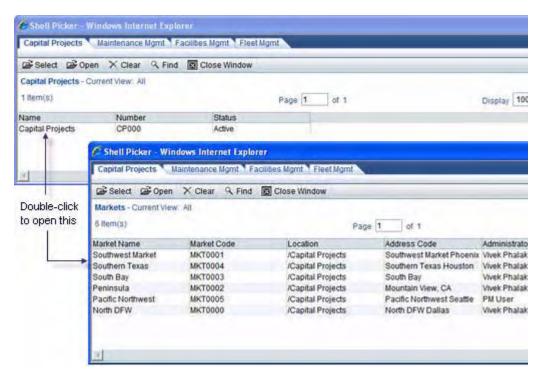
Figure 4-29 Select from Shell Picker

The sub-shell may contain other sub-shells. You can navigate to them by clicking the **View** button and selecting the sub-shell from the list.
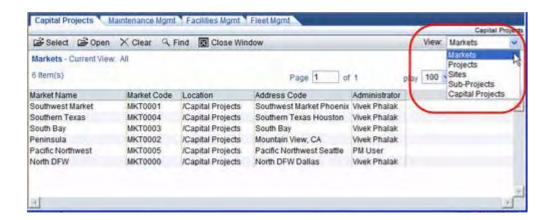
Figure 4-30 Select from View menu

7 Specify the template that should be used to create the shell as follows:

a Click the **Select** button. The Shell Template picker opens, showing a list of the templates that have been designed for the shell type this BP will create.

b Select the template and click the **Select** button. The name of the template appears in the field on the form.

8 Specify the shell status, such as Active or On-Hold.

When the shell is created, this is the status it will be assigned.

9 Specify the line item status.

> If you give the shell a status of **Inactive**, child shells cannot be created.

This is the status at which the line item should be to create a new shell/project. When the line item reaches the status you specify here, Unifier will automatically create the new shell or project and assign it the status you specified in step **8**.

10 Complete any other fields that have been included on the form.

11 Click **Finish Editing**.

When the business process reaches its terminal status, and the line item status reaches the status you specified in step **9**, Unifier will create a new shell/project using the template you specified, and the new shell/project should appear in the hierarchy in its appropriate place.

Working with Shell features

The Navigator displays the shell-related features that you have permission to access. Depending on the modules that your company has set up and your access permissions, the following shell functions are available.

Note: *This is only an example of the Navigator for a shell, but the basic functionality is the same. Company administrators can configure the Navigator to better suit business needs, such as creating nodes to store business process records.*
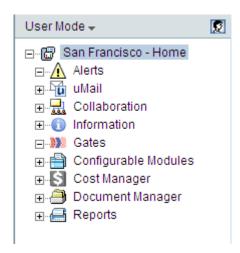
Figure 4-31 Example of a shell navigation area

- **Alerts:** You can create customized alerts for a condition or event. See "Managing Alerts" on page 93.
- **uMail**: An internal e-mail feature that allows Unifier shell team members to communicate with each other and maintain a record of the communications. See "Working with uMail" for details. For shells with View-Only status, uMail is available for viewing, but you cannot send, edit or delete messages.
- **Collaboration (Tasks, Messages, Drafts):** Lists current business process tasks that have been assigned to you, that you have been copied on, and draft copies you have saved. See Chapter 5, "Business Processes". Tasks and Drafts are not available for View-Only and Inactive shells. Messages are available for View-Only shells, but you cannot add general comments.
- **Information:** Lists the shell directory and general BP information.
- **Gates:** Displays phase and gates information, and enables manual or automatic advancement of phases. See "Reverse auto-population example" on page 102.
- **Configurable Modules:** The configurable modules that have been created to work with your shells. See Chapter 14, "Configurable Manager" for details.
- **Cost Manager:** Access shell-level cost manager functions. The Generic Cost Manager is discussed in Chapter 7, "Cost Manager".
- **Document Manager:** Repository of shell documents, allowing collaboration, revision control, or markups. See Chapter 10, "Document Manager".
- **Reports:** Access to system and user-defined reports. See Chapter 15, "Reports".

ADDING AN IMAGE

In many forms, you can add an image to your shell. For example, you can add an image that shows progress on the shell information record. You can add images to attribute forms in shells, projects, companies, and BPs.

Valid image file types are:

- JPEG
- GIF
- PNG

- TIFF

Add an image

If the Image picker is available to your shell, forms display the image name and a box to hold the uploaded image. The Image picker can be added to all forms, except for those in the Cost Manager, Generic Cost Manager, Schedule Manager, and Document Manager.

You can change the image by replacing it with another uploaded image. Images display as HTML or PDF formats in printed forms as well as in print preview.

Note: *The image name is based on the data element name provided in uDesigner.*

To add an image

1   Click **Upload Images** in the toolbar at the top of the form.

2   Browse for the image to upload and click **OK**.

3   Click **OK**.

Note: *The image displays online in Unifier, but it is not available for printing. Also, images do not display in UDRs or email notifications.*

MANAGING ALERTS

You can create customized alerts for a specific condition or event. For example, you could set up an alert that sends you an e-mail letting if a fund amount on the funding sheet has reached a certain level.

Alerts are created by creating an Alert-type user-defined report.

Create and manage alerts

To create an alert

1   Create an Alert report in user-defined reports.

2   Open a shell and click **Alerts** in the Navigator. The Alerts log opens.

3   Click **New**. The Alert window opens. Complete the window as described in the following table.

4   Click **OK** to close the Alert window.
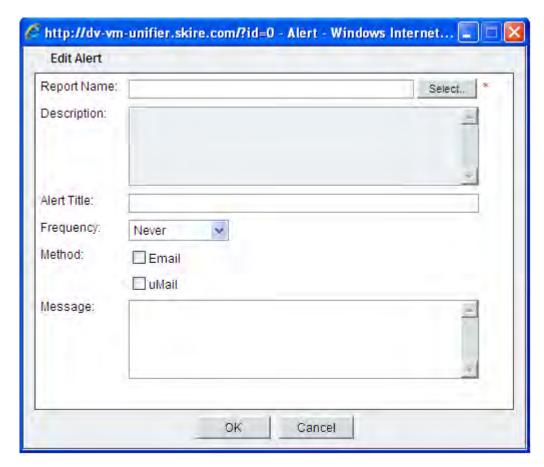
Figure 4-32 Alert window

In this field	Do this
Report Name	Click the **Select** button. The list of user-defined alert reports for the shell opens. Select a report from the list and click the **Open** button.You can also click the **Find** button and enter search criteria to locate a specific report. **Note:** Reports that are already used to create an alert are shown with a checkmark. You can create more than one alert for each report.
Description	Populated automatically with the report description, if one exists.
Alert Title	Appears as the title of the alert in the log and on the alert sent. By default, the field shows the report name, but you can change the name.
Frequency	How often you want the alert to be sent when the trigger condition is met: • **Never:** Alerts are not sent. • **Hourly:** Sent every hour, at about 20 minutes past the hour. • **Daily:** Daily at about 2:20 a.m. • **Weekly:** Sent on Mondays at about 2:20 a.m. • **Monthly:** Sent on the first day of the month, about 2:20 a.m. Times might vary. The times are based on the Unifier server used. Skire servers operate on Pacific Standard Time. **Note:** If you choose a frequency other than never, you must specify a method and message.

Method	Select one or both of the methods to be notified of the alert. For e-mail, the address in your user profile is used).
Message	Type a message that you want included in the alert. Remember that this is an alert that only you see, so enter as much or as little detail as you need.

To edit alerts

1   Open a shell and click **Alerts** in the Navigator. The Alerts log opens.

2   Select an alert and click **Open**. The Alert window opens.

3   Make changes to the alert as needed and click **OK**.

To delete an alert

Open a shell and click **Alerts** in the Navigator. The Alerts log opens. Select an alert and click **Delete**.

WORKING WITH UMAIL

uMail is an internal Unifier e-mail feature that allows shell team members to communicate with each other and maintain a record of the communications.

The uMail interface is similar to common e-mail programs such as Microsoft Outlook. uMail supports file attachments. You can send uMail to shell team members and to external e-mail addresses. External e-mail cannot be sent directly to uMail.

A copy of every uMail communication is saved in a central folder (Public Items) controlled by the shell administrator. These communications become part of the shell record. Shell or company administrators must grant users permission to access the Public Items folder. Depending on permissions, users can view all Public Items messages or only those in which they participated (sent or received). Permission can also be granted to deleted items in the Public Items folder. Once deleted, they are not recoverable, but users who sent or received messages deleted from the Public Items folder can still retain copies of the messages in their own Inbox or Sent folder.

Access uMail

The uMail feature is shell-specific, and the full functionality is accessed at the shell level. A cross-shell listing of your Inbox and Sent items can also be accessed in the uMail node directly under Home.

To access uMail

1   Open a shell.

2   In the Navigator, click **uMail**. The uMail folders expand.

- **Drafts:** Displays uMail messages that you have drafted but not yet sent.
- **Inbox:** Displays messages sent to you.
- **Sent Items:** Displays messages that you have sent.
- **Deleted Items:** Displays items that you have deleted from one of the other folders.
- **Public Items:** Stores copies of all uMail messages sent between shell team members. Access to the Public Items folder must be granted through permission settings.

To view all your uMail messages across shells

1   On the shell dashboard, click **uMail**. All messages residing in all shell uMail Inbox and Sent folders are listed.

2   To open a listed message, select it from the list and click **Open**.

To search for a specific uMail message across shells

1   On the shell dashboard, click **uMail**. All messages residing in all shell uMail Inbox and Sent folders are listed.

2   Click the **Find** button.

3   Enter search criteria in the **Subject Containing** or **Message Containing** fields in the upper portion of the log window.

4   Click **Search**. The log lists the messages meeting the search criteria entered.

Send and receive uMail

uMail functionality is similar to common e-mail programs. You can attach files, format text, flag the message, compose and save a draft of your response without sending it, and preview your message in a browser. You can correspond with your Unifier shell team members through uMail, and send uMail to external e-mail addresses. External e-mail users cannot send e-mail directly to uMail.

To send a uMail message

1   Access uMail and select any uMail folder.

2   Click **New**. A message window opens.

3   Choose the recipients of the uMail message by doing any of the following:

   • Click **To**. The User/Group picker opens displaying shell users. Select the recipients from the Select Users list and click **Add**. Click **OK** to close the picker.

   • To send a copy to another recipient, click **Cc**, and then choose the recipients from the User/Group picker.

   • To send a copy to an external e-mail address, enter the address in the **External Cc** field. Separate multiple addresses with a semicolon (;). The recipient sees Unifier Notification in the From field and cannot reply directly.

   • To send a blind copy (bcc), click the **View** menu and select **Bcc Fields**. The Bcc button and External Bcc field become available on the uMail message window.

4   Type the subject of the message in the **Subject** field.

5   Type the body of the message in the text field.

Note: *To attach files, format the text, flag a message for followup, compose and save a draft of your message without sending it, or preview your message in a browser, see the following procedures.*

6   Click **Send** to send the message.
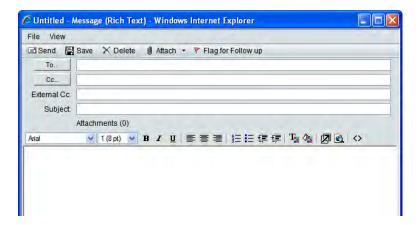
Figure 4-33 New uMail message

To view or respond to a uMail message

1 Double-click a message to view it. The message opens.

2 To respond to the message, do one of the following:

- To send a reply to the sender, click **Reply**.
- To send a reply to the sender and other recipients of the original message, click **Reply to All**.
- To forward the message to another recipient, click **Forward**. File attachments remain with forwarded messages.

3 Type your response and click **Send**.

To attach files to a uMail message

1 Open the uMail message.

2 Click **Attach** and choose one of the following:

- To attach the file from your local system, select **My Computer**. The procedure is the same as uploading files to the Document Manager and depends on your file transfer option.
- To attach documents from the Document Manager, select **Unifier Folder**. The window opens, displaying the shell documents files and folders. Select the files and folders to attach and click **OK**.

Note: *When attaching a folder, the contents of the folder is attached in a flat list. You cannot attach documents with duplicate file names.*

3 Click **OK** to add the file, and the click **OK** to close the General Comments window.

You can also send a copy of a completed BP form directly while working in the BP form. Unifier automatically creates a PDF copy to send via uMail.

To flag a message for follow up

1   Open the uMail message.

2   From the uMail toolbar, click the **Flag for Follow up** button.

3   Select a flag remark from the **Flag to** list. All flags appear in the uMail log as a red flag. When the recipient opens the message, the flag remark appears across the top of the message.

4   To remove the flag, click the **Flag for Follow up** button, and then click **Clear Flag**.

To format uMail text

1   Open the uMail message.

2   Select the text that you want to format in the body of the message.

3   On the Formatting toolbar, choose the formatting to apply to the text.

To search for a uMail message

1   In the Navigator, click a uMail folder.

2   From the toolbar, click the **Find** button. The Find box expands above the log.

3   Do any of the following:

   • To search by the recipient (To field), click the **Select** button and choose the user from the User/Group picker.
   • To search by subject, enter a word or phrase in the **Subject Containing** field. You can use partial entries.
   • To search by message content, enter a word or phrase in **Message Containing**.
   • Further refine the search by choosing **Read** or **Unread**.

4   Click **Search**. The messages meeting your search criteria are listed in the log.

To delete uMail messages

1   Do one of the following:

   • From a uMail log, select the message and click **Delete**.
   • From within a uMail message, click **Delete** on the toolbar.

   The message is moved to the shell Deleted Items folder.

2   To permanently delete a message, select it from the Deleted Items folder and click **Delete**. Click **Yes** to confirm.

When you delete a message from your account, a copy of the message remains in the central shell Public Items folder. Messages deleted from the Public Items folder are permanently deleted.

Link uMail messages to business process records

You can link uMail messages directly to BP records using the Linked uMail link at the bottom of the BP form. This option is available only in BPs that have been set up to accommodate linked

uMail messages. Attaching messages or viewing attachments depends on your uMail permissions.

To view a list of BP records to which a uMail message is linked

1   Open the uMail message.

2   If the message is linked to a BP record, the upper portion of the message displays the following:

This uMail and any future replies are linked to records. ***Show list***

3   Click the **Show list** link to view the list of BP records to which the uMail is linked.
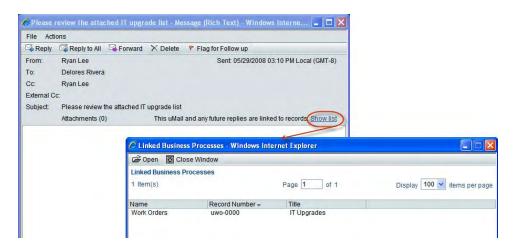
Figure 4-34 Linked BP list

COLLABORATING WITH TEAM MEMBERS

Unifier helps you to collaborate with your fellow team members through business processes.

About tasks, messages, and drafts

Your tasks, messages, and drafts are BPs that are in process and with which you are involved. When you are part of a BP workflow, or have been invited to participate in a discussion group within a business process, you are assigned a task. Messages are BPs that you have been sent a copy but do not need to take action. Drafts are BPs that you have worked on and saved but have not yet sent.

To access shell-related tasks, messages and drafts
Open a shell, and do one of the following:

• From the shell landing page, click one of the items requiring your attention.

• In the Navigator, click **Collaboration**, and then click **Tasks**, **Messages,** or **Drafts**.

View shell information

Shell information consists of the directory and the general information node. The Information node in the Navigator has two subnodes:

- General is a log of general information BP records.
- Directory is a list of shell team members

General records originate as single-record BPs—only one record exists per shell. The General log is useful for shell-specific information that only needs to be documented on a single form. You can use it to easily categorize and find big-picture shell information. An example is general shell data or descriptions.

To access shell information

1 Open a shell

2 In the Navigator, choose **Information > General**. The log displays the available records.

3 To open a record, select it and click **Open**.

To view the shell directory

1 Open a shell.

2 In the Navigator, choose **Information > Directory**. The Directory log opens, listing the shell team members and their contact information.

Contact shell team members

You can view the contact information of team members, and send them e-mail or uMail from within Unifier. If there are many team members, you can use the search function to find a particular member.

To find a shell team member

1 Open the shell Directory and click **Find**.

2 Choose which information to search by in the **Search By** selection list (for example, first name).

3 Enter search criteria in the **Search for** field (for example, enter all or part of the first name), and click the **Search** button.

To view a team member's user profile

1 In the Directory, select the user from the list and click **Open**. The View User Profile window opens.

2 In the **Contact Information** selection list at the top of the window, choose one of the following:
   - **Current** *shell name***:** Displays contact information specific to the current shell, such as the onsite address or cell phone.
   - **Company Contact Information:** This is the member's company contact information.

To send an e-mail using an external e-mail program
Do one of the following:

- In the Directory, select a team member's name and click **Send e-mail**.
- In the team member's User Profile window, click the e-mail address.

An e-mail dialog box using your default e-mail program (for example, Microsoft Outlook) opens. The To: field is populated automatically with the member's e-mail address. E-mail sent through your external e-mail program is not saved as part of the Unifier shell record.

AUTO-POPULATION AND REVERSE AUTO-POPULATION IN SHELLS

Auto-population and shells

Fields on a business process in a child shell can be setup in uDesigner to auto-populate from the attribute form of the current shell or any parent shell, or to auto-populate from the upper form of a single-record non-workflow business process under any parent shell. Also, a field on a shell attribute form can be setup to auto-populate from the attribute form of any parent shell, or from the upper form of a single-record business process under any parent shell.

For example, a bank can have multiple banking centers. When a new banking center is commissioned, then a project shell can be used to manage the construction details of the banking center. A Work Order business process, which is created under the project shell contains details including physical characteristics from the Site shell. In this example, that includes the building color, which is auto-populated to the Work Order business process so that the building is painted the correct color.
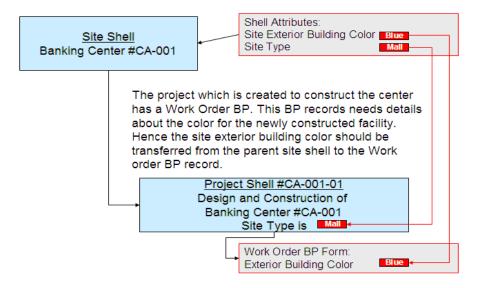
Figure 4-35 Shell auto-population example

Note: *If a shell is moved to a new place in the shell hierarchy, fields that are auto-populated for that shell retain the values that were populated when the shell was initially created. Auto-population does not reoccur when a shell is moved in the shell hierarchy.*

Reverse auto-population and shells

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be automatically updated when other values are modified in a BP form or shell attribute form.

Note: *Reverse auto-population does not occur for shells with View-Only status.*

Depending on the set up in uDesigner, reverse auto-population can occur in these instances:

- Changes to the data elements in a child shell's attribute form can result in changes to the attribute form of any parent shell in the shell hierarchy
- Changes to data elements in a BP detail form under a child shell can result in changes to the current shell attribute form or any parent shell attribute form in the shell hierarchy

For example, When a new banking center is commissioned then a shell instance is used to construct the banking center. The parent shell needs to be updated with data from the Attribute forms of the child shell and from BPs within the child shell.

Also, data stored in a Code and Records-based Manager (such as a Parts Manager) may change based on company-level or project/shell-level BPs, and those changes need to reverse auto-populate back to the attribute form.
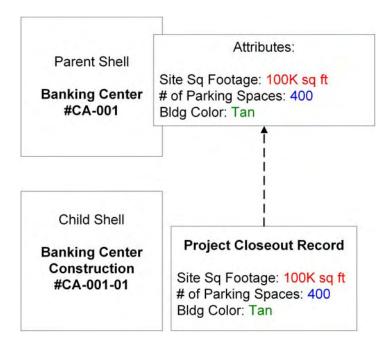
Figure 4-36 Reverse auto-population example

WORKING WITH GATES

Gates allow you to assess the quality and integrity of a shell throughout its life cycle. A series of gate conditions are defined and tracked for each phase of the shell. Each gate condition is evaluated against the shell data and is marked complete if the conditions are met. When all the conditions are met, the shell moves to the next phase either automatically or manually, based on the configuration.

Phases and gate conditions are configured in the Gates Setup in Administration Mode.

You can use the Gates dashboard when working with shells to do the following:

- Monitor the progress of phases
- View phase conditions and their definitions
- Run a gates process
- Manually override a gate condition
- Manually advance a phase

View gate condition details

To access the Gates dashboard

1   In User Mode, open a shell.

2   In the Navigator, click **Gates**. The Gates dashboard opens.

3   Do one of the following:

- Select a phase and click the **Edit** button on the toolbar. Click the **View** button below the Gate Condition pane. The Edit button is available if the gates setup is active.
- Double-click a gate condition in the Gate Condition pane.

The Edit Gate Condition window opens. This is a view-only window. The General tab displays the data type associated with the gate condition. The Query tab displays the data element and trigger condition for this gate condition.
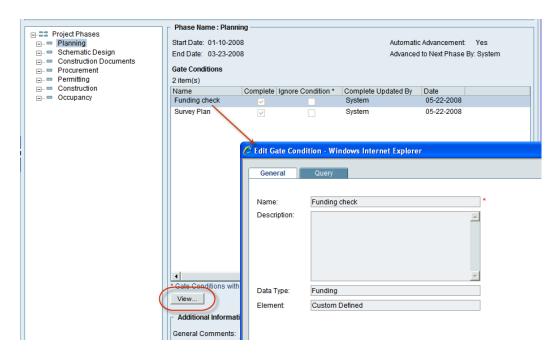
Figure 4-37 Edit Gate Condition window
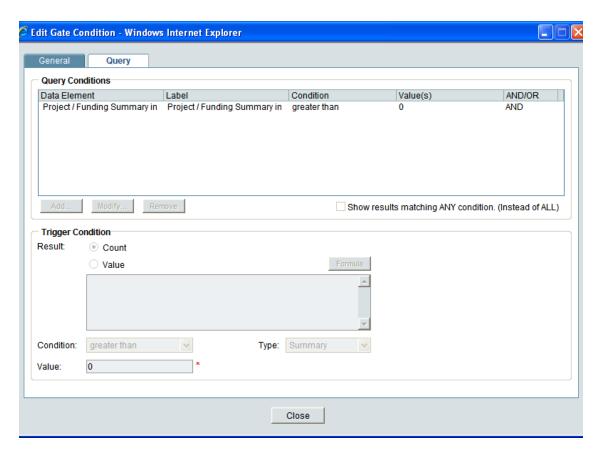
Figure 4-38 Edit Gate Condition window, Query tab

WORKING WITH PHASES

Validate gate conditions manually

You can manually validate conditions, which is the same validation that is performed during scheduled runs. The dashboard is updated to show any changes to the gates conditions.

To manually run gates

In the Gates dashboard, click the **Refresh** button.

If a gate condition is met, it is marked as complete. If all gates conditions are have been met for a shell phase, and Automatic Advancement is set, the shell phase advances to the next phase.

Edit phase details

To edit phase details

1   In the Gates consoles, select a phase and click the **Edit** button. The Edit Phase Detail window opens.

2   Do any of the following:

- Mark a gate condition as complete by selecting the **Complete** checkbox next to it.
- Mark a completed gate condition as not complete by deselecting the **Complete** checkbox.
- Select and view gate condition details.
- Add or view general comments.
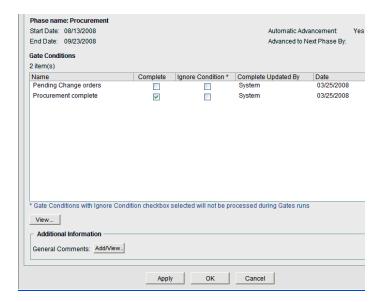
Figure 4-39 Edit Phase Detail window

This item	Does this
Gates Condition list	Displays the gates conditions that must be met for the selected phase.
Complete checkbox	Select the checkbox to flag the gate condition as complete.
Ignore Condition checkbox	Select the checkbox to override the gate condition requirement for this phase.
View button	Click **View** to open the view-only Edit Report window. The General tab displays the data type associated with the gate condition. The Query tab displays the data element and trigger condition for this gate condition.
General Comments Add/View	Click the button to add or view general comments associated with this phase.

Advance a shell to the next phase

After the gate conditions have been met for a phase, you can manually advance a shell to the next phase.

To advance to the next phase

1   In the Gates console, click the **Advance to Next Phase** button.

2   In the confirmation window, click **Yes**.

3   The system validates whether all gates conditions have been met for that phase. If all gates conditions are complete, the shell advances to the next phase. If any gate conditions have not been met, you can do the following:

- Manually mark a gate condition as complete. See "Validate gate conditions manually" on page 105.
- Select the **Ignore Condition** checkbox to override the gate condition requirements. See "Edit phase details" on page 105.
- Select the phase and click the **Edit** button to view details about the phase and gate conditions to determine what needs to be done to meet the condition.

Return to a previous phase

You can return to a previously completed phase and make it the current phase.

To return to a previously completed phase

1   Select the phase to reset as the current phase.

2   Do one of the following:
- Select a gate condition and edit it so that it is no longer complete.
- Add a new condition so that the completed phase is no longer complete.

Add or view phase comments

To add comments in a phase

1   In the Gates console, select the phase and click the **Edit** button. The Edit Phase Detail window opens.

2   Click the General Comments **Add/View** button. The General Comments window opens.

3   Enter comments in the Text Comments window and click **OK**.

   Note: *After you have saved a comment, it cannot be edited or deleted.*
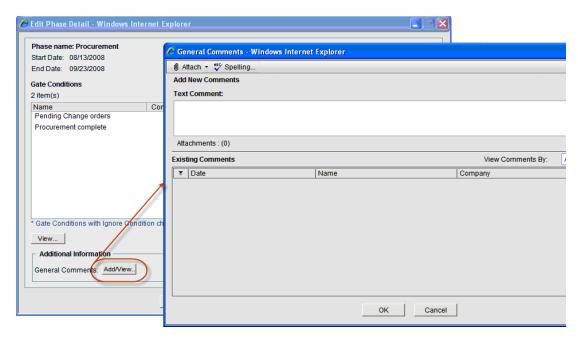
Figure 4-40 Gates General Comments

To view comments for a phase

- In the Gates console, click the General Comments **View** button at the bottom of the window. The General Comments window opens displaying existing comments.
- In the Gates console, select the shell phase and click the **Edit** button. Click the General Comments **Add/View** button. The General comments window opens.

MONITORING GATES

View gate runs

You can view results from prior scheduled gates runs.

To view gate runs

1   In the Gates console, click the **Saved Gates Runs** button. The Saved Gates Runs window opens.

2   Select a gate run from the list and click **Open**. The results are available in a PDF file. PDF file names include the date and time of the gate run.

3   Choose to view or save the PDF file and click **OK**.

View gate audit log

The audit log captures Ignore Condition flags and general comments.

To view the gate audit log

In the Gates console, select **View > Audit Log**.

CONFIGURING A SHELL DASHBOARD

By default, all shells have a dashboard that you can configure if you have configure permissions. The dashboard is your personal dashboard. You can control the look and content and make it specific to the shells that you are working with. Administrators can push a dashboard to a group of users, but you (as an end user) cannot create a dashboard that is viewed by other users.

Note: You can update the shell dashboard from the shell template. See the Unifier Administration Guide, Shells chapter, for details.

You can configure custom shell dashboards that use SWF files to control the dashboard data presentation, or you can use the configurable shell dashboards that come with Unifier.

Note: In most cases, the Company Administrator will configure the shell dashboard for you.

See the *Unifier Administration Guide*, Shell Setup, for details on setting up data sources for shell dashboards, and setting up custom shell dashboards.

Each shell dashboard has at least one tab, with the default name of Summary, which you can change. A dashboard can have up to five tabs. You can choose from a list of predefined layouts for these tabs.

The shell dashboard is separated into these default blocks:

- **Shell image block:** Contains the image uploaded by your company administrator for the shell.
- **Items Requiring Your Attention:** Contains items that are generally listed on the Unifier Home page, such as tasks and messages.
- **Details:** Contains the default report or the report that you choose to upload.
- **Links:** List of links configured for the shell by your company administrator.

You can add blocks of these types:

- Standard
- Custom
- Drilldown
- Portlet

CONFIGURING A SHELL DASHBOARD

To configure a shell dashboard

1   From the shell landing page, select **Edit > Dashboard**. The Edit Dashboard window displays.

There are two sections to this window: Tab Setup and Source Details. Under Tab Setup, the default first tab already has a name and layout that you can modify.
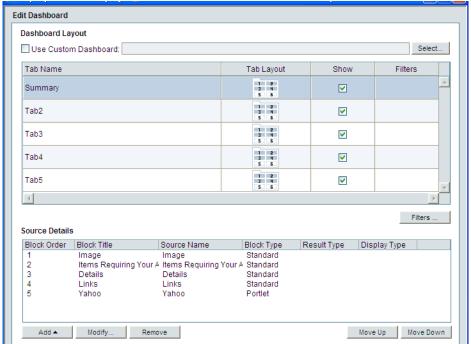
Figure 4-41 Edit Dashboard window

2 You can specify whether to use a custom shell dashboard, by selecting Use Custom Dashboard, and browsing for the custom dashboard SWF file. If you use a custom dashboard, the format of the dashboard is determined by the SWF file, and the other settings on the Edit Dashboard window do not apply.

3 To change the tab, click the tab name. Change the tab name, and select a layout for the tab. You can experiment with layouts to see which one works with the information that you want to display.

4 Select the **Show** checkbox to show the tab in the dashboard.

5 Under Source Details, you can add standard or custom blocks. You can add any number of blocks, but the dashboard displays the blocks based on the tab layout you select. To add a standard block, click **Add > Standard**.
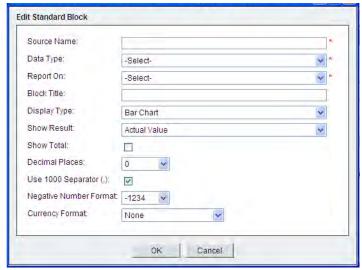
Figure 4-42 Edit Standard Block window

In this field	Do this
Source Name	Enter a source name.
Data Type	Select a data type.
Report On	Select what to report on.
Block Title	Add a title for this block.
Display Type	Select the chart type.
Show Result	Choose **Actual Value** or **Percent of Total**.
Show Total	Select this checkbox to display the total.
Decimal Places	Select the number of decimal places.
Use 1000 Separator (,)	Select this checkbox to use the comma as a 1000 separator.
Negative Number Format	Select the format for negative numbers.
Currency Format	Choose **None**, **Shell Currency**, or **Base Currency**.

6 Click **OK** to save your changes and exit the Edit Standard Block window.

7 To add a custom block, click **Add > Custom**.
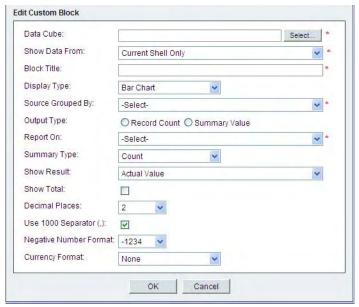
Figure 4-43 Edit Custom Block window

This item	Does this
Data Cube	Select the shell data cube definition to use. Data cubes are queries that can be defined and reused to create charts on your dashboard. Your company administrator defines the data cubes.
Show data from	Enables you to select the shells to use as data sources. You can choose: • Current Shell Only • Sub-Shells Only • Current Shell and Sub-shells
Block Title	Add a title for this block.
Display Type	Select the chart type.
Source Grouped By	Select how the source is grouped.
Output Type	Choose either **Record Count** or **Summary Value**.
Report On	Select what to report on.
Show Result	Choose **Actual Value** or **Percent of Total**.
Show Total	Select this checkbox to display the total.
Decimal Places	Select the number of decimal places.
Use 1000 Separator (,)	Select this checkbox to use the comma as a 1000 separator.
Negative Number Format	Select the format for negative numbers.
Currency Format	Choose **None**, **Shell Currency**, or **Base Currency**.

8   Click **OK** to save your changes and exit the Edit Custom Block window.

9   To add a portlet, click **Add > Portlet**. Enter the portlet name and the URL or IP address.

This allows you to add content to your dashboard from a URL address. For example, you could use this portlet to specify a webcam site to monitor activities via a live camera. You can add as many portlets as needed.

10 You can define a block that allows users to drill down into the displayed data. See "To add a drilldown block to your shell dashboard" on page 113 for details.

> ***Note:*** *You must add drilldown blocks if you want to use filtering on your dashboard blocks.*

11 After you define the drilldown, you can also add filters. See "To add filtering on a drilldown block in your shell dashboard" on page 115 for details.

12 To remove a block, click **Remove**. To reposition a block, click **Move Up** or **Move Down**.

13 Click another tab name to modify the tabs and sources for that tab. Repeat these steps for each tab until you have configured the entire dashboard to meet your needs.

14 Click **Apply** to save your configuration, and then click **OK** to close the window.

To add a drilldown block to your shell dashboard

You can add a drilldown block that allows you to access greater levels of data detail.

For example, if a dashboard block shows a pie chart with data for two projects, called Parking Extension and Terminal Expansion, and you double-click on Terminal Expansion to expose the vendors on that project:
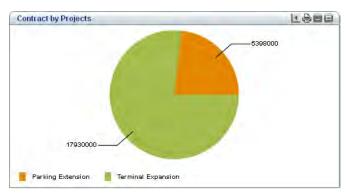
Figure 4-44 Example of dashboard block, drillable

To continue the example, when you double-click on Terminal Expansion the to access the vendor information, and the amount associated with the vendors Acme Equipment, Pacific Building Interiors, and L. Loring & Company:
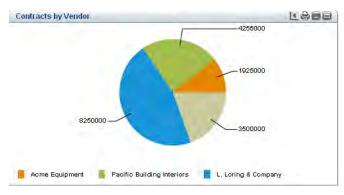
Figure 4-45 Example of drilldown to next level

Note: *If you want to use filters on your dashboard blocks, you must first define a drilldown block.*

1   On the Edit Dashboard window, click **Add > Drilldown**. The Edit Drilldown Block window opens.
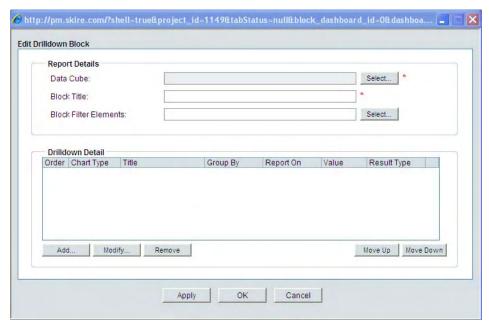
Figure 4-46 Edit Drilldown window

This item	Does this
Data Cube	Select the data cube definition to use. Data cubes are queries that can be defined and reused to create charts on your dashboard. Your company administrator defines the data cubes.
Block Title	Add a title for this block.
Block Filter Elements	Group By elements from the data cube. This determines which columns from the data cube definition will be used to group data for filtering.

2   Click **Add** to add Drilldown Details. The Edit Drilldown Details window opens.
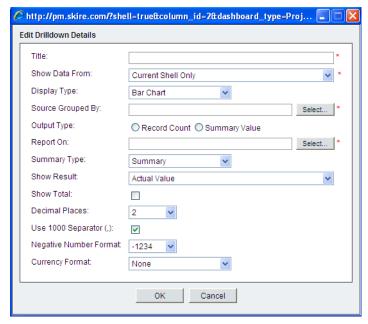
Figure 4-47 Edit Drilldown Details window

In this field:	Do this:
Title	Enter a title for the drilldown.
Show Data From	Select the shells to use as data sources.
Display Type	Select the type of display, for example, a bar chart.
Source Grouped By	Select the columns from the data cube definition that will be used to group data.
Output Type	Select Record Count or Summary Value.
Report On	Select the columns from the data cube to be defined as Summary.
Summary Type	Select the summary type.
Show Result	Select the type of result, for example, Actual Value.
Show Total	Select to show the totals for the data.
Decimal Places	Select the number of decimal places.
Use 1000 Separator (,)	Select to use a comma (,) as a separator.
Negative Number Format	Specify the format for negative numbers.
Currency Format	Select the currency format.

3 Click **OK**, and click **OK** to exit the Edit Dashboard window.

To add filtering on a drilldown block in your shell dashboard
You must first define the filter at the block level, and then specify that it appear on the dashboard for use.

1   To define the drilldown at the block level, click **Select** next to Block Filter Elements on the Edit Drilldown Block window.
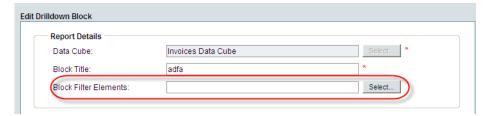
Figure 4-48 Select Block Filter Elements

2   Select the data elements from the data cube that you want to use as filters. For example:
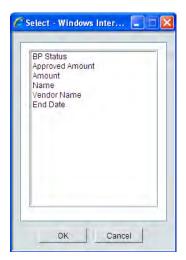
Figure 4-49 Select Block Data Elements

3   Click **OK** to exit the Edit Drilldown Block window.

4   On the Edit Dashboard window, click the **Filters** button to add filters at the dashboard level. The Configure Filters window opens.
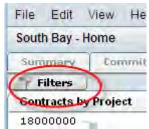
Figure 4-50 Filter button
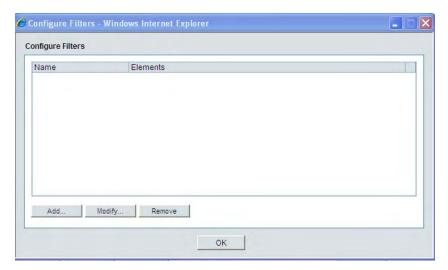
Figure 4-51 Configure Filters window

5   Click **Add**. The Add Filter window opens.
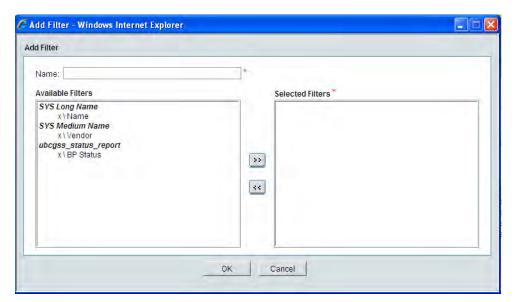
Figure 4-52 Add Filter window

6   Enter the filter name.

7   Select the filter you want to use on the dashboard block.

8   Click **OK**, and then click **OK** to exit the Configure Filters window.

OPTIMIZING SHELL DASHBOARD PERFORMANCE

You can sometimes improve shell dashboard display performance by following a few guidelines. Shell Dashboard performance can depend on how many dashboard blocks are defined and the volume of data retrieved by the dashboard query.

Improve shell dashboard performance

Here are some tips to improve shell dashboard performance:

• Reduce the number of dashboard blocks, if possible.
• Define conditions for SQL filtering to return less data.
• Do not check **Show Total** when you configure dashboard blocks.
• Do not select **Percent** for **Show Result**.

5 BUSINESS PROCESSES

In this chapter

‣ *Understanding business process forms and workflows*
‣ *Accessing business process logs and records*
‣ *Creating and sending a business process*
‣ *Adding line items to business process forms*
‣ *Attaching comments and files*
‣ *Linking another business process record or uMail message*
‣ *Responding to tasks and participating in a workflow*
‣ *Initiating or participating in a discussion group*
‣ *Consolidating comments and markups*
‣ *Printing business process forms and logs*
‣ *List of business process functionality in various areas of Unifier*

UNDERSTANDING BUSINESS PROCESSES

OVERVIEW OF WORKING WITH BUSINESS PROCESSES

- Understand the business process forms and types. This will help you to determine what you need to do (for example, how to recognize a document-type BP versus a cost type, and what they are for).

- Find the business process that you need. You may want to view certain BP records for information. This chapter will help you find what you are looking for.

- Respond to a task. You receive an e-mail saying that you have a BP task. This will occur when you are part of a BP workflow and are requested to take some action on it. (Enter information, review, approve, send along documents or comments, etc. You may also receive an e-mail saying that you have been copied on a BP workflow step, are designated as an editor on a business process, or you are invited to join a discussion group. All of these are discussed in this chapter.) You access BP records by logging into Unifier.

- Create a business process record. You may need to create a business process record. This may be a workflow BP, which you send to the next person or group in the workflow or a non-workflow informational form that is simply saved to the system.

- Enter information into a business process. How information is entered onto a business process depends on the design and might include information that you enter directly into BP fields; adding line items (such as cost transactions); adding file attachments, comments, or notes; adding a link to another BP record; marking up drawing files; and more.

- Participate in a workflow. Understand how to take action on a business process, accept or decline a task, send the form to the next person in the workflow, or copy other team members.

Note: Not all BPs work in all areas of Unifier. See "Business Process Functionality in Unifier" on page 246 for a table listing all available BPs and the functional areas in Unifier in which they are available for use.

THE BUSINESS PROCESS FORM AND WORKFLOW

About business processes

Unifier transactions and collaboration are driven by business processes. Information is entered and stored in Unifier using electronic business process (BP) forms. Each time you fill out a business process form, you are creating a new record in Unifier. These forms may be routed to project or shell team members or other Unifier users via fully configurable workflows. Non-workflow BPs will simply be stored as records.

The forms in Unifier are simple to use and consistent throughout Unifier, with basically the same look and feel. Learn how to use one form, and you understand how to use them all.

The information that you enter into business process fields may be used throughout Unifier. Each field corresponds to a "data element" that can be identified, reported upon, and tracked; some data element values may be rolled up to sheets such as a cost sheet or resource sheet. The look and feel of a field (data element) is determined by the data definition on which the data element is based. The data definition determines whether the field is a text-entry field, a drop-down list of options, a checkbox that you can select, a picker that is used to select an existing Unifier record, etc.

Business process form records are stored in their respective logs, which are accessible in the Navigator. You can think of these logs as filing cabinets, with each drawer storing a different type of business process.

Business processes can be associated with specific project or shells (project- or shell-level BPs) or can be applicable for the entire company and not project- or shell-specific (company-level BPs). The project or shell or company administrator determines which forms are to be used and how the workflows will operate.

Business process forms are designed in uDesigner.

Workflow versus non-workflow

uDesigner-created business processes are fully configurable and may be designed with or without a workflow.

About workflows

The Unifier workflow engine provides a fully customizable, interactive and easy to use means for routing a business process form.

When you participate in a business process workflow, you are taking action on the form as requested (for example, review and approve an invoice, or respond to a request for information). Depending upon the workflow setup, you may choose the next recipient of the business process in the workflow, or this may be automatically selected for you. When you send the business process, it proceeds along the workflow and records each action taken at each step.
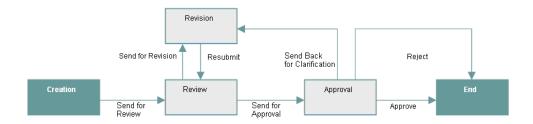
Figure 5-1 Example of a business process workflow

In the workflow example above, the form is created and filled out, and then sent for review. The reviewer has the option of sending the form for revision (after which, it is resubmitted to the reviewer), or sending it on for approval. The approver may send the form back for further clarification or revisions, may reject the form, or may approve the form. Rejection or approval will end the workflow, after which the form is no longer editable.

How transactions work

The relationship between business processes (commits, spends, blanket POs) and the Cost Manager, Fund Manager, and Schedule of Values (SoVs) is illustrated in the following graphic.
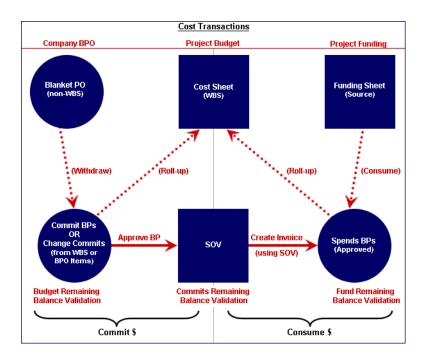
Figure 5-2 Example of cost business process relationships

For SOV creation, it is important to have the correct column structure setup (meaning you have to include required columns and correct formulas) for validating Summary Commitments (by WBS) and Remaining Commits Balance. In the SOV structure, you need to define a formula for Remaining Commits Balance, which reflects the amount of commits minus spends. This column ensures that the Spend BP line items are not overdrawn from SOV breakdowns items' amount.

For additional information, see Chapter 7, "Cost Manager"

About business process types

Different business needs require different types of business processes. In uDesigner, many different types of business processes are available that perform various functions within Unifier. Business processes can be of the following types:

Cost Type: These forms track and manage cost information and interact with the project or shell cost sheet. Examples include base contracts or purchase orders, change orders, budget change requests, invoices, fund appropriations, and leases. Additional cost-related functionality includes schedule of values and payment applications.

Cost business processes have several sub-types that are used to perform specific cost-type functions in Unifier. The cost business process subtypes are:

- **Commit at company level (also known as Blanket Purchase Order):** This sub-type allows tracking and control of costs at the company level above the WBS level. It is independent of a budget or cost sheet and is used for tracking non-WBS expenses across projects or shells. Project or shell level commit BPs can be set up to reference a company commit.
- **Line items with WBS code:** These business processes directly relate to the project or shell cost sheet. BPs that use a WBS picker to reference WBS codes must use this subtype. These

BP transactions can directly affect the budget. Examples include base commits, change commits, general spends, and payment applications.

- **Line items with fund code:** This sub-type is used for fund appropriation at the project or shell level. Business processes can be created to automatically allocate or consume funding source funds, which are chosen using a Fund picker. These transactions are for fund management and do not necessarily affect the budget. Transactions on this type of BP roll up to the Fund Manager.

- **Line items with both WBS and fund code:** This sub-type is used during fund appropriation at the WBS level. These transactions are for fund management and do not necessarily affect the budget. Transactions on this type of BP roll up to the Fund Manager and Cost Manager.

- **Line items with company accounts code:** This is a company-level business process that can be used to roll up transaction data to the company accounts sheet.

- **Line items with asset code:** This is a company-level business process that can be used to roll up transaction data to asset sheets.

- **Line items with multiple codes:** This sub-type is for business processes that can be used with a generic (non-WBS) cost manager.

Document Type: You use this form as an "envelope" to package a set of files, such as spreadsheets, drawings, and design documentation, that flow from one group to another. Advanced functionality allows documents to be attached to the form as line items, with line item status control. This allows the ability to change the status (for example, approve or reject) for each attached document. Examples are submittals and transmittals. There are two subtypes:

- **With folder structure:** Both documents and folders can be uploaded to the BP. The folder navigator in the lower left of the form displays the folder structure.

- **Without folder structure:** The folder structure will be ignored, and documents are attached in a flat list. The contents of selected folders and subfolders are attached.

Line item type: This type lends itself well to business processes that involve miscellaneous information you want to document for a company or project; for example, a vendor contact list. Or, they are useful for project-specific information that only needs to be documented on a single form, such as the overall project scope, or meeting minutes.

Line item BPs are also useful for collecting data that other, more restricted types of BPs cannot. For example, while a simple-type BP can be used to collect basic vendor information, a company-level line item BP can collect additional vendor information, such as multiple business addresses. At the project level, you can use a line item BP to filter large numbers of company records into smaller lists of records that are more appropriate for a specific project.

Line item BPs use a separate detail form to enter line items, which then appear on a line item list at the bottom of the form. Or, for short line items, Unifier users can enter information directly into the line item list using a "grid view" of the list.

You can design these BPs to accommodate line item status, so you can control modifications to individual line items based on their status.

There are two sub-types of this BP:

- **Generic:** Use this sub-type for all line item BPs unless you want to filter BP records. To filter BP records, use the sub-type explained below.

- **Line items to filter business process records:** Use this sub-type to filter company records into smaller lists of records for your projects. This BP is particularly suited for selecting specific vendors from a company's master vendor list to create a sub-set of the master list that contains vendors who are appropriate for a particular project. Used for this purpose,

this BP type can be linked (as a reference process) to an RFB to supply a project-specific vendor list for bid invitations.

Project/Shell Creation type: This type of business process creates new standard projects and shells from the upper form of the BP or from line items. The data necessary to create projects/shells is provided by this BP. This BP creates projects and shells using the templates that have been designed in Unifier.

This business process can also work with the Planning Manager by automatically linking new projects/shells with planning items. Instead of linking a planning item to a project in the Planning Manager, this BP can be designed to automatically create the link when the project/shell is created, and roll up data to the Planning Sheet from the business processes in that project/shell.

Request for Bid (RFB) type: The RFB module allows companies to invite project- or shell-related bids from different vendors. There is a BP form for requestors (Unifier user requesting the bids) and for bidders (bidders do not need to be existing Unifier users and are provided with a simple interface that does not require special training to use).

Resource type: Resource business processes work with the Resource Manager. There are two subtypes:

- **Resource booking:** This is a project-level business process. In the upper form, you pick a date range to book resources. The line item list displays a summary of booking rows. You can one resource booking BP per project.
- **Time sheet:** The time sheet business process can be designed to roll up hours and costs from the time sheet to cost sheets. There is one per company, but there can be multiple schemas.

Simple type: These BPs consist of an upper form only (like a line-item-type BP without the line items). It is a way to add company or project or shell information that does not require line items. Simple BPs can be a company-level, non-workflow, single or multirecord, or s project- or shell-level, workflow or non-workflow, multirecord. An example is a project information form to capture basic reference information.

Text type: This form's content is typically a text comment in the lower portion of the form. Examples of text type BPs include RFIs (Request for Information) and action items, which track issue resolution.

ACCESSING BUSINESS PROCESSES

. . . .

Business process records are stored in logs, accessible through the Navigator. You can think of logs as filing cabinets, with each drawer storing the records of a specific BP.

Each time you fill out a BP form, you are creating a new record in Unifier. You can access existing records from these logs or create new business process records of that type. By default, all records in which you were involved (created by, sent to, or copied to you) will be available for you to view and open from the BP logs. If you have additional permissions, you may also be able to view all project or shell or company BP records created in those logs.

Business processes can be project and shell level or company level. Project- and shell-level business process records contain information that pertains to the specific project or shell. These records may roll up information to the project or shell cost sheet, Document Manager, etc. Company-level business process records are used for information that is not specific to any particular project or shell, for example, a company-wide approved vendor list, a blanket purchase order that can be used for general expenses, a cost BP that rolls up to a company accounts sheet, or general meeting minutes.

Note: *Remember that all BPs require view, modify, or create permissions to access and use them. Contact your project or shell or company administrator about permission settings for BPs that you need to access.*

About business process logs

During BP setup, the administrator determines in which log a BP will be stored. You navigate to these logs by choosing the appropriate node in the Navigator. The following section describes how to access business process logs, from which you can view or create BP records.

Note: *Unifier's Configurable User Mode Navigator feature allows your company administrator to configure the Navigator to display nodes that are different from those that are described here. For example, instead of project or shell Logs, your BP node might be labeled My Business Processes, or there may be different nodes for Cost BPs, Document BPs, etc. Your company administrator can provide information about these nodes.*

The default BP logs are:

Project logs: Most project-related business process records are stored under the Project Logs node, which lists the logs for each BP. These can be of any BP type. Each business process will have its own node. That is, a business process used as a base commit will have one node (log) under which all records for that BP are stored. BPs like these are known as multirecord instances, which means that each BP can have any number of individual records (that is, individual forms). These can be workflow or non-workflow.

Shell logs: Most shell-related business process records are stored under the Shell Logs node, which lists the logs for each BP. Shells are listed in the Shell log in a hierarchy, from the main shell to the various subshells. BPs are listed in the Shell log in the same way they are listed in the Project log.

Company logs: Similar to project or shell logs but used for company-level business processes and located in the company workspace.

Data Manager: Similar to project or shell or Company logs, this node is a collection of individual BP logs. Data Manager can be for project- or shell-level BPs (located in the project or

shell) or company BPs (in the company workspace).These BPs are often used for any type of miscellaneous information, for example, equipment specifications and maintenance information, a vendor database, or a company-level blanket-PO type BP. Each form has its own log containing individual records of that form. Like Project/Shell or Company logs, these BPs can have multiple records and can be workflow or non-workflow.

Project/Shell Information > General: This log is used only for one type of BP: line-item or simple type business processes that are single-record instance, which means that they are used to create only one record per BP per project or shell. They are useful for project- or shell-specific information that only needs to be documented on a single form. An example is a BP for general project or shell data and descriptions. These BPs do not have a workflow.

Fields on a business process in a child shell can be setup to auto-populate from the upper form of a single-record non-workflow business process under any parent shell and attribute form of the current or parent shell.

If you are an Editor on a single-record business process, you can open and edit that record, per your view access permission (View User Records, View Company Records, or View All Records). You must have at least one of these permissions to be able to view the record in the log to access it to edit.

General (in the company workspace): Similar to the project- or shell-level General log but for company-level, single-record BPs.

Master Logs: Located under the Home tab. Master Logs allow you to access all or a subset of business process records of the same type, in a single log that spans multiple projects or shells.

ACCESSING BUSINESS PROCESS LOGS AND RECORDS

The following procedures discuss how to locate business process logs and access BP records.

Access specific business process logs and records

The following procedures discuss how to locate business process logs and access BP records.

To access project- or shell-level business processes

1   In the Navigator, open a project or shell.

2   Navigate to one of the project- or shell-level BP logs:
   • **Data Manager:** Expand the Data Manager node to view the individual BP logs.
   • **Project/Shell Logs:** Expand the Project/Shell Logs node to view the individual BP logs.
   • **Information > General:** Click General to view the list of single-record business process records.

To access company-level business processes

1   In the Navigator, open the company workspace.

2   Navigate to one of the company-level BP logs:
   • **Data Manager:** Expand the Data Manager node to view the individual BP logs.
   • **Company logs:** Expand the Company Logs node to view the individual BP logs.
   • **General:** Click **General** to view the list of records.

View tasks

Tasks that are assigned to you are listed in your Tasks logs.

Note: *Tasks for View-Only and Inactive projects or shells are not listed in the Tasks log.*

The Tasks logs display business process-related tasks in which you are being requested to participate. The following tasks may appear in your Tasks logs:

- You are part of a business process workflow and are requested or required to take some sort of action.
- You are an editor on a business process, which means you are a user or member of a group that can edit a business process without being granted explicit record-level permission.

> **Note:** *Edits performed by Editors are not audited.*

This allows users other than the assignee to edit the business process record. Editors can be added to these workflow or non-workflow business process types:

- Line Item
- Cost (all types, including Lease and Line Item with Multiple Codes)
- Document
- Simple
- RFB
- Text

If you are an Editor on a business process, you can open and edit any record that you can see listed in the log, per your view access permission (View User Records, View Company Records, or View All Records). You must have at least one of these permissions to be able to view the record in the log to access it to edit.

Edits performed on the end step of a workflow business process affect the record directly, as no draft exists.

> **Note:** *Editors cannot edit a workflow record until the task assignee accepts the task, and saves the draft.*

Last One to Save Wins!

If multiple editors and the assignee are editing the business process at the same time, the data saved by the last edit will over write all previous edits. For example, if User 1 changes an amount field from 15,000 to 23,000 and saves the change, and User 2 changes a different field, but does not touch the amount field, when User 2 saves his/her change, Unifier will commit User 2's edits; and the amount field will show 15,000 rather than 23,000.

- You have been invited to join a discussion group by another user who is requesting assistance with drafting comments or markups on a BP. These are indicated as being sent for "Discussion" in the Tasks log.
- You are designated as the Initiation step assignee for an auto-created business process.

Tasks that are late—have passed their due date—are shown in the log in red.

Task logs are found in projects and shells, in the company workspace, and in one central Tasks log for all company and project or shell BPs, which can be accessed from the Unifier home page.

For information about responding to your tasks, see "Responding to Tasks" on page 204

To view tasks assigned to you

Navigate to a Tasks log by doing one of the following:

- In the Navigator, click **Tasks** directly under the Home node. This is the central Tasks log that lists all of your tasks: company level and for all projects or shells.
- Click the **Tasks** link listed under Items Requiring Your Attention from your User Mode home page. This takes you directly to the central Tasks log (under the Home node).
- In the Navigator, choose a project or shell and then choose **Collaboration > Tasks.** The Tasks log lists the tasks for that project or shell.
- In the Navigator, choose **Company Workspace tab> Company > Collaboration > Tasks**. The Tasks log lists tasks from company-level business processes.

To search for tasks using business process information

You can search for tasks in the Tasks log using Find data elements included on business process records in uDesigner. This allows you to filter the listed records and quickly find the ones you need to work on.

Note: *If no Find data elements are specified for a business process, the Find window displays the default search criteria fields, which are From (Company), From (User), Record Number Contains, and Record Title Contains.*

1. Navigate to a Tasks log:
   - Home > Tasks
   - Project (Standard) > Collaboration > Tasks
   - Shell > Collaboration > Tasks
   - Company Workspace > Collaboration > Tasks

2. Click **Find**.

3. Select a business process type in the **Type** *equals* field. The list of business process types that is available is based on the tasks that you have received. You can select the blank entry at the top of the Select a type list, which indicates that you want to search for all business process types.

   The later part of the Find window dynamically displays any available Find parameters from the business process type as defined in uDesigner. If you later select the blank entry in the **Type** *equals* field, the Find window reverts the default fields.

4. You can also select a business process step in the **Sent For** *equals* field. The steps listed are the steps for any selected business process type. If you have not selected a business process type, then the list of steps is derived from all business process types for which you have tasks.

5. Select any other search criteria relevant to the selected business process type. The fields displayed are those that were designed as the Find data elements when the business process type was designed in uDesigner.

6. Click **Search** (or press **Enter**).

Unifier displays the tasks that met the search criteria you entered.
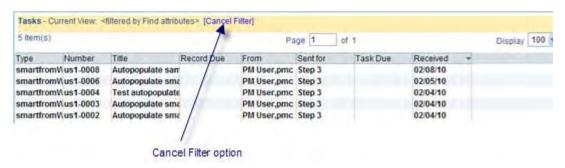
Figure 5-3 Filtered list with cancel filter option

If you choose to, you can cancel the filtering action by clicking **[Cancel Filter]** or the **x** icon in the upper-right corner of the window. Unifier will restore the list of tasks to its unfiltered state.

Save and access draft business processes

At any time while filling out a business process form (whether creating a new one or responding to a task), you can save your work as a draft and return to it later. The record remains in your Drafts logs until you send it. In addition, if you initiate a discussion group, the BP remains in your Drafts log (the log displays a Yes in the Discussion column) until the discussion group ends (see "Working with Discussion Groups" on page 213).

To save a draft copy of the business process form
From the File menu of an open BP record, click **Save**. A draft copy of the form with your edits so far is saved in your Drafts log.

To view your drafts
Navigate to the Drafts log by doing one of the following:

- In the Navigator, click **Drafts** directly under the Home node. The Drafts log lists all draft BPs.
- In the Navigator, open a project or shell or company and navigate to **Collaboration > Drafts**.

Note: *Drafts for View-Only and Inactive projects or shells are not listed in the Drafts log.*

To open a draft
Select a BP record from the Drafts log and click **Open**.

To delete a draft
Select the BP record from the Drafts log and click **Delete**. The draft form will be permanently deleted. A draft is automatically deleted from the log after the BP record has been sent or otherwise completed, or the discussion group ends.

View messages (cc'd tasks)

If someone copies you (cc) on a task, it is not a task for you, but information only and called a message. These business process record copies are listed in your Messages log. You will usually be notified by e-mail when you have a new a message. If you receive an e-mail notification, click on the hyperlink at the bottom of the e-mail. You will be directed to the Unifier Login screen and, once you log in, to the project or shell or company Messages log.

Note: *Messages for View-Only projects or shells are listed in the Messages log, but you cannot add general comments to these messages.*

Messages are view-only snapshots of the form at a particular step and remain available for viewing until the BP is sent to the next step. Messages received for an end step will remain available in the log.

To view messages
Navigate to the Messages log by doing one of the following:

- Click the **Messages** link listed under Items Requiring Your Attention from your User home page. The Messages log lists all messages.
- In the Navigator, open a project or shell or company and navigate to **Collaboration > Messages**.

Access the custom business process help PDF file

Your company or project or shell administrator may provide a file to give you information about a specific business process. These are provided as PDF files, which can be read with Adobe Reader. If a custom help file is available, it will be listed under the Help menu for the BP log or form.

To access the business process help PDF file

1 Navigate to the BP log, or open a BP record.

2 Click the **Help** menu. If a BP help file has been added, it will be listed in the Help menu (appears as *<BP name>* Help.

3 Click **<BP name> Help**. You can choose to open the file or dave it to your local drive first.
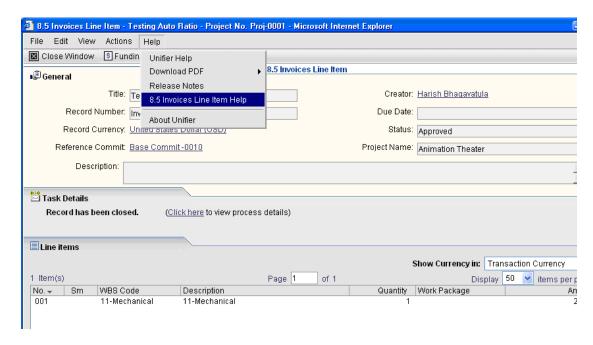
Figure 5-4 Accessing custom BP help from the BP record

ACCESSING BUSINESS PROCESS RECORDS FROM A MASTER LOG

If you have permissions, you can access project or shell business process records from a Master Log. The Master Logs are located under the Home tab. The Master Logs allows you to access all of or a subset of business process records of the same type, in a single log that spans multiple projects of shells. Also, you can create and use saved searches in the Master Logs.

Business processes are listed under the Master Logs node by business process type. The Master Logs node can be renamed by your Administrator, and access to the node depends on permissions.

Depending on permissions, you can perform these actions on business process records listed in a Master Log:

• Create a new record
• Edit an existing record
• Perform bulk edits on records

You can also save searches of business process records in the Master Logs as needed.

A business case example for the use of the Master Logs is a dispatcher who is responsible for translating service requests into work orders. This dispatcher could have Work Orders created for different buildings (represented as shells in Unifier) over different regions. A Work Order Master Log to which the dispatcher has access permission allows him to create and edit Work Order records for any building shell from a single location in Unifier, rather than drilling into each Building shell to access the records.

Another possible business case example is a regional Lease Manager who must access all of the active leases in the system that have Lease Amounts > $50000 per year. The Master Logs allow

the Lease Manager to access all Lease business process records based on search criteria and save the search criteria.

Note: *If you do not have permissions to view any of the business process types listed under the Master Logs node, then you will not see the Master Logs node listed under the Home tab.*

Access Master Logs

The Master Logs list all business process types at the project or shell level in separate nodes for each type. This includes workflow, non-workflow, and multiple record business processes. Company-level and single-record business processes are not listed in Master Logs. With permissions, you can access Master Logs for business processes across a shell hierarchy starting with the highest shell level that you can access. Business processes in shells with Active or View status are listed. A Master Log uses the standard business process log display, unless an Advanced Log is defined in uDesigner.

The following illustration shows an example of a Master Log that includes navigation. The navigation is the result of a Advanced Log that was configured for the business process type in uDesigner.
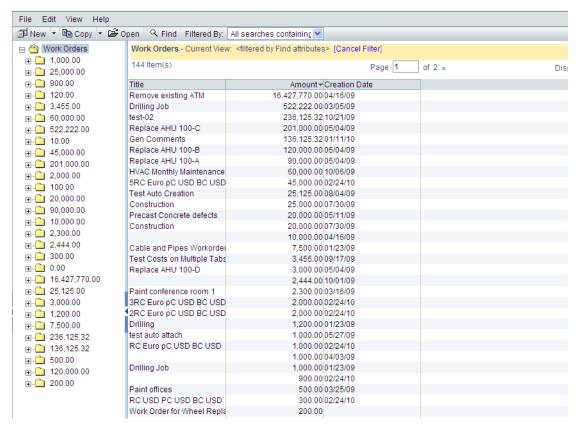
Figure 5-5 Master Logs example

To access Master Logs

1   Click the **Home** tab.

2   In the Navigator, expand the Master Logs node.

3   Click the name of the Master Log you want to access.

Create, modify, or bulk update business processes in Master Logs

If you have permission to create records, you can create business process records from the Master Log in any project or shell. Also, you can modify or bulk update business processes in the Master Log, again if you have the appropriate permissions. If View Map is enabled, you can select one or more records across projects of shells to view on a map.

Note: Import Template, Export Template, and Permissions are not supported actions on business processes in Master Logs.

Note: Both auto-population and reverse auto-population are supported for business process records that are created or edited in the Master Logs.

To create business process records in a Master Log

Provided you have record creation permissions in the selected project or shell, you can create business process records in Master Logs.

There are specific conditions for creating workflow and non-workflow records in the Master Logs. For workflow business process records:

• Business process must have an Active setup in the selected project or shell

• Chosen project or shell controls the list of enabled workflow setups

• You must be an assignee on the Create step of the business process within the selected project or shell

• If you save the record during its creation, instead of sending it, the record is listed in the Home Drafts folder, is not yet listed in the Master Log for the business process

• After the record is created, it is listed in both the business process log for the project or shell and well as the business process Master Log

Creation conditions for non-workflow business process records:

• Business process must have an Active setup in the selected project or shell

• You must be on the Creator list for the business process in the select project or shell

• After the record is created, it is listed in both the business process log for the project or shell and well as the business process Master Log

1   Navigate to a Master Log.

2   Choose **New > Create in Project** or **New > Create in Shell**.

3   Select the project or shell in which to create the new business process record. The project or shells listed are Active and are those in which you are a member.

4   For workflow business processes, select an active schema.

5   Complete business process creation and **Save** the record.

To modify business process records in a Master Log

You can edit project or shell business process records in the Master Log, provided you have the appropriate permissions in the associated project or shell. When you open a business process record in a Master Log, the record will open in either Edit or View mode, depending on the user permissions associated with that record in the project or shell.

There are specific conditions for editing workflow or non-workflow records in the Master Logs. For workflow business process records:

- You can Accept tasks and take Action on workflow records by opening the record from the Master Log if you are the assignee on the current step in the business process workflow. If not, record is opened in View mode only.
- After you open a business process record in the Master Log, the project or shell permissions are in effect
- You can add general comments if you are a cc user on a particular step; you can add general comments provided the current step has general comments option enabled
- If you are not an assignee on a particular step, you must have Bulk Edit permission on the business process Master Log to edit data elements on the record

Conditions for editing non-workflow business process records:

- If you have Edit Data permissions on a non-workflow business process record, you can open the record and edit it in the Master Log
- If you are an Editor of a non-workflow business process record, you can open the record and edit it in the Master Log

1   Navigate to a Master Log.

2   Select a business process record.

3   Choose **File > Open**.

4   Edit the business process record and **Save** the record.

To copy business process records in a Master Log
You can copy a business process record in a Master Log. Copy from the Master Log creates the new record in the same shell or project as the source record.

1   Navigate to a Master Log.

2   Select a business process record.

3   Choose **File > Copy**.

4   Edit the business process record and **Save** the record.

To use bulk update on business process records in a Master Log
If you have the Allow Bulk Edit permission, you can select one or more business process records in a Master Log and perform bulk edit on these records. You can select records across projects or shells to perform bulk edit.

These data definitions cannot be modified using Bulk Edit in a Master Log:

- Image Picker
- Program Picker
- Company Picker
- Group Name Picker
- User Picker
- Project Picker
- BP Creator

1   Navigate to a Master Log.

2   Select one or more records.

3   Choose **Edit > Bulk Edit**.

Work with Saved Searches in Master Logs

You can save searches to reuse in the Master Log. The searches that you save are available in the Master Log for you to reuse, and to be used by other users as well. If you have Manage Saved Searches permission you can create, modify, and delete saved searches.

Note: *A Master Log uses the standard Find window, unless an Advanced Log is defined in uDesigner.*

To create a saved search

1   Navigate to a Master Log.

2   Choose **View > Find**.
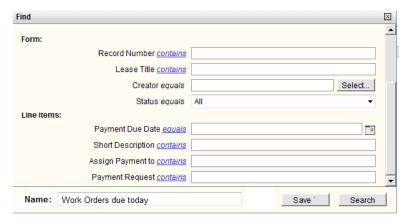
Figure 5-6 Find Window, Master Log

3   Enter the search criteria.

4   Enter a saved search name.

5   Click **Save**.

To modify saved searches
If you have the Manage Saved Searches permission, you can modify saved searches for Master Logs.

1   Navigate to a Master Log.

2   Choose **Edit > Saved Searches**.

Figure 5-7 Manage Saved Searches window

- Rename a saved search by clicking in the **Name** cell to select the existing name. Enter the new name.
- Rearrange saved searches by selecting the search and clicking the **Move Up** and **Move Down** buttons.
- Delete a saved search by selecting the search and clicking the **Remove** button.
- Specify a default saved search by selecting the **Default** checkbox next to the search.

3   Click **OK**.

To use a saved search

You can use saved searches created by you or other users in Master Logs. You do not need to have Manage Saved Searches permission to use saved searches.

1   Navigate to a Master Log.

2   Select a saved search from the **Filtered by** drop-down menu in the toolbar.
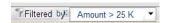
Figure 5-8 Filtered by drop-down

3   You can cancel the filtering by clicking **Cancel Filter**.

Figure 5-9 Cancel Filter link

The log view is refreshed to list all records after you cancel a filter.

SEARCHING FOR BUSINESS PROCESS RECORDS AND LINE ITEMS

Search for a record within a business process log

If there are many records listed in a business process log, you may need to search for the one you are looking for. You search each log individually to look for a specific record.

To search a log for a particular record

1   Select a business process log in the Navigator.

2   Click the **Find** button.

3   If designed by uDesigner, search fields can include line item fields in addition to upper form fields. Enter the search criteria. Below is an example of a Find window:
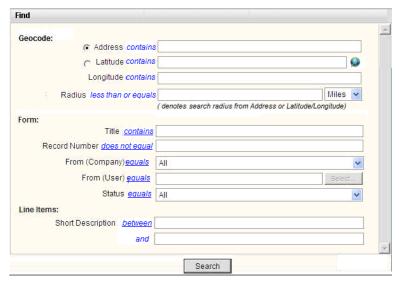
Figure 5-10 Example of Find window

You can vary the operators you use in a search (=,<,>, range, etc.) by clicking the operator link and selecting a new operator.

4   Click **Search** (or press **Enter**).

Unifier displays the business process records that met the search criteria you entered.
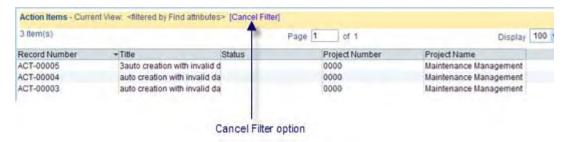
Figure 5-11 Filtered list with cancel filter option

If you choose to, you can cancel the filtering action by clicking **[Cancel Filter]** or the **x** icon in the upper-right corner of the window. Unifier will restore the list of BP records to its unfiltered state.

5   Close the Find window when you are finished searching records.

To sort records in a log

1   Select a business process log in the Navigator.

2   From the View menu, click one of the following selections:
   • **Created by Me:** Lists project or shell records that you created.
   • **Received:** Lists tasks assigned to you.
   • **All:** Lists all records involving you (created by, assigned to, or copied to you).
   • **Find:** Same as clicking the **Find** button.
   • **All Company Records:** Lists all records involving your company, whether you were involved or not.
   • **All project or shell Records:** Lists all records involving the selected project or shell, whether you were involved or not.

To search for a particular line item

1   If Find is enabled in the line-item log, click **Find**. If you have tabs implemented in the line-item log, each tab will have its own Find (a separate search for each tab).

2   Enter the search criteria.You can vary the operators you use in a search (=,<,>, range, etc.) by clicking the operator link and selecting a new operator.

3   Click **Search**. Search results are listed in the log.

4   Move the Find window to view the search results. If you close the Find window, the search results are cleared. The Find window is a floating window.

5   You can change the search criteria and click **Search** to perform a new search.

6   Close the Find window when you are finished searching line items.

ABOUT BUSINESS PROCESS FORMS

The electronic forms in Unifier are simple to use once you understand how they work. Business process forms are consistent throughout Unifier, with a similar look and feel.

The electronic form appears similar to a paper form—you complete the form by typing information directly into the form fields or choosing options through drop-down lists, pickers, or checkboxes.

Note: The section labels are determined in uDesigner and may vary. The basic form functionality remains the same.

In general, most business process forms consist of three major sections: General, Action (or Task) Details, and Line Item List, unless otherwise noted. This is an example of a business process form:
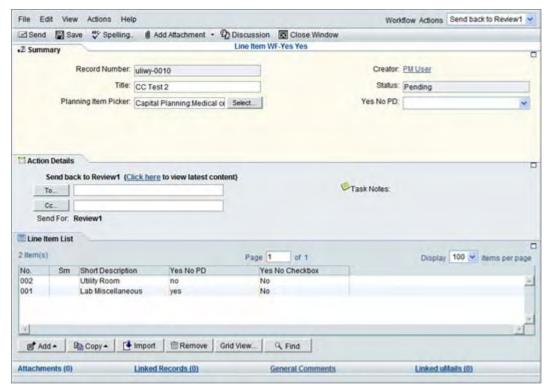
Figure 5-12 Sample business process form (workflow business process)

The business process form has a tool bar at the top of the form, with the following buttons:

Figure 5-13 Business process toolbar

After you are done working on the business process form, click **Send** to route the workflow business process to the specified recipients. You can click **Save** to save a draft of the form, so you can work on it again. Click **Spelling** to check the spelling in your form. You can click **Add Attachment** to add attachments to the form. If the BP is designed to include discussions among members of a group, you can click **Discussion** to open a discussion forum. When you have completed work on the business form, click **Close Window**. (**Note:** The Close Window action does **not** save the information on the form. To save the information, you must click **Save** before you click the **Close Window** button.)

Upper Form: The upper portion of the business process contains the basic (General) information that the form is managing, such as the name of the record and its description, who created the record and when, and other general information. It may also contain fields for referencing other forms, and it may contain fields that are required for specific functionality. This is an example of an upper form for a business process type called Work Orders:

Figure 5-14 Example of an upper form portion of a business process

Workflow or Action Details: This section appears in the middle part of workflow business processes. It is for viewing or assigning the next assignee in the workflow or shows the last person who took action on it. Depending on how the workflow has been set up for the BP, the next assignees may be predetermined, or you may be able to choose the next assignee or send a copy of the BP to another user. You can print workflow progress using custom print.

Note: *Non-workflow BPs do not have an Action Details section.*

This is an example of the workflow section of a business process:

Figure 5-15 Example of a workflow portion of a business process

The **To:** and **Cc:** buttons are active after you select a workflow action in the Workflow Actions drop-down menu in the upper right corner of the form.

You can track a step through the workflow by clicking on the link beside **Task Status**. (For more information about this, see "Tracking a Step Through the Workflow".)

Click the notepaper icon next to **Task Notes** in the Action Details section to add notes to the routed task. These are notes for the task recipients.

Content or Lower Form: The lower portion of the form contains the details and main content of the record, such as line items, file attachments for document-type business processes such as transmittals or submittals, or comments or instructions in text-type BPs such as RFIs. Simple-type BPs do not have a Content section.
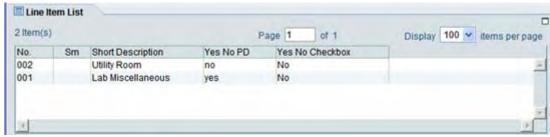
Figure 5-16 Example of a lower form portion of a business process

The lower form of certain BPs may be organized using multiple tabs. The BPs that support tabs in the lower form are:

• Line item type
• Cost type with the classification generic (line items with WBS codes, multiple codes, or account codes)
• Cost type with the classification lease, and the subtype line items with multiple codes

There are buttons under the lower form portion of the business process form that enable you to work with line items:

Figure 5-17 Line item buttons

Use the **Add** button to add detail or summary line items to the record.

Use the **Copy** button to copy another line item from the record, included consolidated line items.

Use the **Import** button to import a line item from a CSV file.

Use the **Remove** button to delete a line item from the record.

Use the **Grid** feature to enter line items directly into the line item list. (This is best used for short line items.)

Use the **Find** function to locate a line item in a long list of line items.

Links at the bottom of the business process form allow you to access attachments, linked records, comments, and uMail:

Figure 5-18 Business process form links

You can minimize and later expand a business process form. You might want to minimize the General and workflow portions of the form to avoid scrolling through many line items.
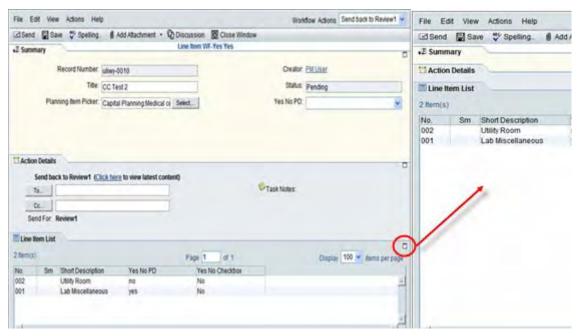
Figure 5-19 BP form (left) and expanded Line Items section (right)

About Business Process Functionality

Functionality	Description
Linked uMail Messages	Allows users to dynamically attach new or existing uMail messages to a BP record, which can be accessed and viewed from within the BP record (permission rules apply).
Reference Processes	Some uDesigner business processes are set up to reference other BP records. This is done using a picker.
BP Auto-Create	Allows a new record to be automatically created from the current BP when it reaches a designated step (S-Step) in a workflow. The BP to be created is chosen using a BP picker.
Enable BP Auto-Create	Allows a new record to be automatically created when certain conditions are met, or at a specified frequency set up by the administrator.
SOV Auto-Create	Commit business processes can be set up in uDesigner to allow Unifier users to auto-create a SOV sheet when a BP reaches its terminal status (e.g., approved). After the SOV is created, an SOV button becomes available on the BP form. The button accesses the SOV sheet directly from the BP form. For more information about SOV sheets, see Chapter 7, "Cost Manager".
Automated Funding Appropriation	Cost type commit BPs can be set up in uDesigner to allow Unifier users to easily allocate or consume funds. Funds are chosen from the available list using a Fund picker. When the BP reaches its terminal status, the funds are allocated or consumed automatically. A button becomes available allowing the user to access the funding sheet directly from the BP form.
Reset Upper Form Field Values	In uDesigner, fields in the upper form can be configured to "reset"—that is, either clear or return to a default value—upon moving to another step. An example is a field that is configured to reset upon being returned to a previous step, thereby forcing a new value to be entered. This functionality can apply to text fields, drop-down menus, radio buttons, and checkboxes, but not pickers or most system elements.

Integration	uDesigner BPs can be imported directly into Unifier via Web Services (XML) or from CSV files, creating new BP records automatically. This functionality is available if the BP has been designed with an integration interface in uDesigner and can be used with cost, line item, simple, text, and document type BPs. Payment application, change commits, and RFB BPs are not supported.
Custom BP Help	You can create your own help files for uDesigner-created BPs (under Unifier Admin mode), which can be accessed under the Unifier Help link. These BP help links are available at the company and project or shell levels as PDF files. For each BP, you can see a context-sensitive menu called "<BP name> Help." This submenu exists in the Unifier Help menu, which can be accessed from both the Log page and Detail page.
Linked Records	Allows users to dynamically attach related BP records to another BP. Linked records can be opened and reviewed from within the BP to which they are attached (permission rules apply).
Summary Line Items	Cost-type and line-item-type BPs support summary line items. This allows regular line items to be grouped together, with only the summary appearing on the BP. The sub line items are rolled up to other areas such as the Cost Manager.
Line Item Status	Document type and line item type can be designed in uDesigner to allow for line item status selection. This allows the ability to change the status (e.g., approve or reject) for each individual line item and its attachments. The BP can be set up in such a way that once a line item reaches a particular status as specified in the setup (e.g., approved), it cannot be edited, attachments cannot be added or removed, and comments cannot be added. Line item status does not have any effect on the overall status of the form itself.
Multi-tab business processes	Some business processes support multiple line item tabs to enable the organization of common data elements on a business process. You can configure and control the behavior of each tab. There can be up to five tabs on the form. The business processes that support multiple tabs are workflow and non-workflow business processes, of either single or multiple records of the following types: • Line item • Cost with the Generic classification and of these sub-types: Line Items with WBS code, Line Items with Multiple codes, or Line Items with Accounts code • Cost with the Lease classification and of the sub-type Line Items with Multiple codes The first tab always contains the main business process line item functionality, and the other tabs are standard line items. For example, on a multi-tab cost business process, the first tab will contain cost-type line items; the other tabs will contain information on standard line items that you would find on a line item business process.
Auto-Populate BPs with Cost or Fund Attributes	You can auto-populate BP detail line items with fund or cost attributes when picking a fund code or WBS code.
Auto-Populate Data Element Fields	uDesigner users have the ability to enable a line-item BP to automatically populate selected data element fields in a referenced BP by clicking the Auto-Populate button (located under the Properties window). Only those fields with the same data definition as the original BP can be auto-populated. This option works in conjunction with a BP picker. For example fields on a business process in a child shell can be setup in uDesigner to auto-populate from the attribute form of the current shell or any parent shell, or to auto-populate from the upper form of a single-record non-workflow business process under any parent shell. Also, a field on a shell attribute form can be setup to auto-populate from the attribute form of any parent shell, or from the upper form of a single-record business process under any parent shell.

Conditional Routing	The BP workflow includes a condition (or trigger) that determines the routing that the BP will ultimately follow, based on the trigger's value. An example is a purchase order BP that follows one workflow if the total amount is less than a certain amount, and follows another if it is equal to or greater than that amount. (The trigger values are assigned during the project or shell BP setup procedure in the Step Settings step.)

About pickers

Pickers appear as a selection list on a business process or other entry form. These pickers allow you to view, select, or reference another Unifier record.

Most pickers display a list of records in a flat list, such as this one:
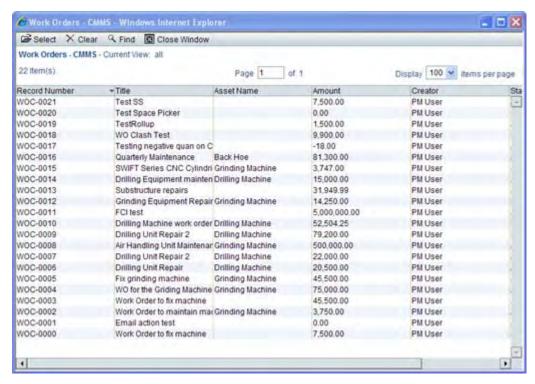
Figure 5-20 Picker showing flat list

Some pickers can be designed to display a navigation structure to guide you to the correct location where a record resides, such as a specific shell, a specific class in a configurable manager, or a specific business process. Below is a list of Work Order business process records that has been designed to show an extra navigation column on the left.

Tree structure that will display
"approved" and "pending" records.
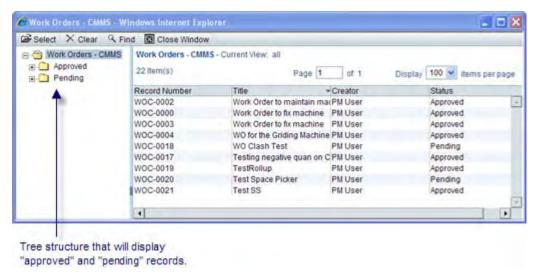
Figure 5-21 Picker with tree structure

By using this extra tree structure column, you can navigate more easily through your business process records to the correct one.

Skire has created the following pickers, which are shipped with the Unifier product:

Account Code picker: This picker can be found on cost-type BPs for choosing company account codes.

Activity picker: On project- or shell-level BP forms, used to select activities from the master schedule sheet.

Allocation picker: Allows users to select a role from a list of roles allocated to the project or shell. The role allocation picker displays each allocated role, the range of dates (earliest date to latest date) for the allocation, and total hours allocated. The Allocation picker allows the user to open the allocation sheet to view details of the allocation. The selected role will be highlighted on the allocation sheet. Users can pick only one role from the Allocation picker.

Asset picker: Allows the user to select an asset for a project or shell. The assets listed for the user's choice will be filtered to include only those assets that are at a specific status or statuses.

BP picker: Allows one business process to be linked to another (for example, to tie invoice BPs to purchase order BPs). Often, the field will be named something like Reference BP, although this is up to the designer of the BP. Depending upon the design of the form, some fields may be automatically populated when the referenced BP is selected.

> *Note: The BP list that the user sees will depend on the user's permissions. Users who do not have permission to view a BP that may be part of the BP picker list will not see that BP on the list.*

Blanket PO picker: Similar to the BP picker, this picker allows users to choose an approved Blanket Purchase Order (BPO) to reference. The transaction amount of the BP will be rolled up to the Blanket PO Manager.

Commit Line Item picker: Used when you create a new line item for a change commit BP. This picker displays a composite view of base commit and change commits. The data elements on the picker are reference, description, and WBS code.

Company picker: Allows users to choose from a list of partner or member companies, for example, a vendor list.

Currency picker: Used to pick currency on a cost-type BP. If no currency is chosen by the creator of the record, the default is the project or shell currency. If no Currency picker is on the form, the currency defaults to the project or shell currency.

Date picker: Displays an interactive calendar from which the date can be chosen. For some business processes, dates in Date pickers can be set in uDesigner to automatically default. For example, this defaulting can be useful in the case of entering a delivery date and having the date default to today's date rather than have to use the Date picker to get a date.

Date Only picker: Displays an interactive calendar from which the date can be chosen. This picker allows you to select a date from the picker, or enter a date into the field. This picker allows you to choose the date only, with no associated time or time zone. For example, you would not need time and time zone for a date like an equipment purchase date. Also, for some business processes, dates in Date Only pickers can be set in uDesigner to automatically populate the server date. For example, this defaulting can be useful in the case of completing an equipment purchase and having the date default to today's date rather than have to use the Date picker to get a date.

Fund picker: Cost-type BPs include a picker to select which fund (from the company funding sheet) the BP will allocate funds to or consume funds from.

Location picker: Use to choose a shell.

Line Item picker: Can be used to reference a specific line item on another BP. For example, a spends BP might require referencing a specific line of a blanket purchase order.

Planning Item picker: Can be used on the upper or detail form of any business process to allow users to select a planning item at the company level. Only one Planning Item picker is allowed per company.

Project picker: Can be used on the upper or detail form of company-level business processes. The picker will show the user a list of the company-sponsored projects to which the user has access. Users can use this picker to auto-populate project data elements on other BP fields. The picker is designed to show Active, Inactive, View-Only, and On-Hold projects.

Resource picker: Use this picker on a time sheet, booking, or assignment BP or for choosing the resource to report on or assign. This picker always opens in Find mode and requires the user to enter at least one search criteria, such as a name or a skill, to narrow the field of names to choose from. For time sheet BPs, users will use this picker to select the personnel to report time on. At runtime in Unifier, the picker will default to read-only mode and show the current user's name, as Unifier assumes the user will be reporting his or her own time. However, depending on permissions, the picker can be editable to allow others, such as project managers, to complete time sheets on behalf of other workers.

Role picker: Use this picker on a time sheet, booking, or assignment BP or for resource allocation sheets. It allows the user to choose the roll to report on or assign. When you use this picker on a time sheet BP at the project level, it will filter out those roles that have already been booked for other projects.

Schedule picker: Use this picker on a schedule BP for choosing the schedule from which activities can be selected for assignments or time sheets.

Shell picker: Can be used on the upper or detail form of company-level business processes. The picker will show the user a list of the company-sponsored shells to which the user has access.

Users can use this picker to auto-populate shell data elements on other BP fields. The picker is designed to show Active, Inactive, View-Only, and On-Hold shells.

Space picker: Allows you to choose a space objects, which are associated with levels in the Space Manager.

User picker: Allows you to choose a project/shell user (members of a project team) or company user (all users defined within a company), for example, to designate a contact person unrelated to the workflow assignees.

User/Group picker: Use this picker to choose a group. To select specific group members, click the group name and the **Members** button. By default, all members are selected. You can use the Member List checkbox to deselect all group members, and then individually select the desired group members and click **Add**.

WBS picker: Cost-type business processes can include a WBS picker for choosing WBS codes.

ADD AN IMAGE

In many forms, you can add an image to your project or shell. For example, you can add an image that shows progress on the project or shell information record, pictures of assets related to a specific asset record, or a photo of an employee in the Resource Manager. You can add images to attribute forms in shells, project or shells, companies, and business processes.

If the Image picker functionality has been added to your project or shell in uDesigner, forms with the functionality display the image name and a virtual box that will hold the uploaded image.

Note: *The image name is based on the data element name provided in uDesigner.*

To add an image

1   Click **Upload Images** in the toolbar at the top of the form.

Valid image file types are:

- .jpg
- .jpeg
- .gif
- .png
- .tif

2   Browse for the image to upload and click **OK**.

You can change the image by replacing it with another uploaded image. Images display on the HTML or PDF formats of printed forms. They display in print preview as well. The Image picker can be added to all forms except for those in the Cost Manager, Generic Cost Manager, Schedule Manager, and the Document Manager.

Note: *The image displays online in Unifier, but it is not available for printing. Also, images do not display in UDRs or e-mail notifications.*

ADD A HYPERLINK

In many forms, you can add a hyperlink to your project. For example, you can add a hyperlink to equipment documentation, details on a resource, or external websites that contain

information pertinent to a BP record. You can add hyperlinks to attribute forms in shells, projects, companies, and BPs.

If the Hyperlink picker functionality has been added to your project in uDesigner, forms with the functionality display a hyperlink name, such as vendor website.

To add a hyperlink

1   Click on the hyperlink area on the form.The Hyperlink window displays:

2   Enter the hyperlink name and the URL. Only the URL is mandatory. If you enter the name and the URL, the hyperlink displays as the name you entered. If you enter the URL only, the hyperlink displays as the URL. The protocols HTTP and HTTPS are the only protocols allowed. FTP is not supported for hyperlink creation on forms.

> **Note:** *The URL should not reference the same domain that Unifier is using for operation. If you attempt to use the same domain, a warning message will result.*

3   Click **OK**.

To reset a hyperlink

1   Click on the hyperlink area on the form. The Hyperlink window displays.

2   In the Hyperlink window, click **Clear**. This will remove the existing hyperlink.

3   Enter a new hyperlink name and URL.

4   Click **OK**.

ADD OR VIEW A MAP (GEO-CODING)

If the functionality is configured in uDesigner, you can add maps to some BPs, based on a property address, longitude and latitude (geocoding). The ability to view maps from the upper form of BPs of these types:

• Line item
• Simple
• Text
• Document
• Cost (classification generic)

Maps functionality is supported on company, project, and shell-level BPs. You can also search for a map by an address or longitude or latitude for BPs that have the mapping functionality enabled.

To add a map to a business process

1   Click the **globe** icon next to the Latitude and Longitude fields. The Latitude Longitude picker window displays with a map that you can manipulate as needed.

2   Do one of the following:

- Enter the address of the property to compute the latitude and longitude, and click the **Map It** button.
- Enter the numbers for latitude and longitude in degrees, or in degrees, minutes, and seconds, and click the **Map It** button.
- Click on the map to compute latitude and longitude. A map pin displays the location of your click.

3 Click **OK** when finished computing latitude and longitude. Latitude and longitude are populated in the corresponding fields on the BP in decimal degrees.

4 If you click the **globe** icon again, the latitude and longitude values are displayed in the Latitude Longitude picker window and are retained there until you calculate a new latitude and longitude. A map pin on the map indicates the location of the property represented by the current latitude and longitude displayed in the picker.

To view maps from the business process log

1 Navigate to a business process log.

2 Select one or more records.

3 Click **View Map**. A map opens displaying the various locations that are mapped, indicated by map pins. If the locations indicated on the map are far apart, the map zooms to the closest location.

4 Click a map pin for location details.

5 Click **Close** to close the map.

Note: *If multiple records are selected that have the same latitude and longitude, the map will show only one pin marker.*

To view a map for a specific business process record

1 Navigate to a BP record and click **View Map**. If the BP has latitude and longitude address details, a map opens displaying the property location, indicated by a map pin.

2 Click the map pin for location details.

3 Click **Close** to close the map.

CREATING BUSINESS PROCESSES

Business processes may be created and accessed from any business process log. Users must have the proper permissions to create new BP records.

After a workflow BP has been created and sent, Unifier adds the record to the log with a status of pending, which refers to the status of the next step. Unifier creates a task for each of the assignees in the next step in the workflow, and a message for each of user that has been cc'd.

Before you begin

- Be sure that you have the proper permission settings. All Unifier functions are controlled by fully configurable permission settings, including creating business processes. Contact your project or shell or company administrator regarding permission settings.
- A business process (form and workflow) must be imported, configured, and set up by an administrator before it can be used.
- Some BPs have fields that require set up, such as drop-down menus or dynamic data sets, which must be set up by an administrator.

INITIATING BUSINESS PROCESSES

New business process records can be created in the following ways:

- Manually create a new BP record, starting with a blank form.
- Copy an existing BP record in the same log. The fields will be populated with the original record entries, which can be edited as necessary.
- Auto-create a record from another record at a specified step (S-Step) in a workflow.

> **Note:** *You can print workflow progress using custom print.*

- Auto-create a record when certain conditions are met or at a specified frequency.
- Create a business process from within the Document Manager, selecting the documents or folders to include as attachments.

These are described in the following sections.

Manually create a business process record

The following is a general procedure for creating a new business process record out of any of the BP logs. Details about each step are given in the following sections.

> **Note:**   *You must have the proper permissions to view a BP log and its records and to create a new record. Contact your project or shell administrator regarding permission settings.*

To create a new business process record (general procedure)

1   Navigate to the BP log from which you want to create the BP record.

2   Click the **New** button, or click the drop-down arrow next to the New button and choose from the list of business processes.

3   If more than one workflow has been defined, the Select Workflow window opens. Choose the workflow instance to use and click **OK**. If this is a non-workflow BP, or if only one workflow has been defined, this step is not applicable.

The Draft BP form opens.

4   Complete the upper form (the upper portion of the form). The fields can be text-entry, drop-down menus, radio buttons, or pickers. Required fields are marked with a red asterisk (*) and require input.

> **Note:** *Note: If the BP uses a BP picker, some fields may be pre-populated after choosing the reference BP. These values may be editable, depending upon the setup. For an overview of picker types, see "About pickers" on page 144.*

5   Complete the content section:
   • If this is a cost or line item type BP, add line items as necessary.
   • If this is a document-type BP, attach the documents to the BP.
   • If this is a text-type BP, complete the text portion (for example, for an action item, include the instructions in the text box in the lower portion of the form).
   • If this is a simple-type BP, this portion is not applicable.

6   You may add additional optional information, including:
   • Add general comments or attach a file to a general comment.
   • Add or review graphical markups to an attached document.
   • Provide a link to another completed BP form. Other participants will be able to click the link and view the referenced BP form.

7   When you have completed the form, select an action from the actions drop-down list.

Figure 5-22 Select an action

8   In the action details area of the BP form, designate the next assignees (users or groups) who will receive the next step in the workflow as a task. You may also be able to designate the task due date for the next assignees.

> **Note:** *You can choose the next users to send the BP to if the BP has been set up this way. Some BPs have a fixed workflow. If this is the last step in the workflow, this is not applicable.*

9   You may also add task notes for the next participants in the workflow. Task notes apply to the next workflow step only, and are not stored with the permanent record.

10 Click **OK** to save your changes.

11 Click **Send** to complete the creation step of the workflow and send it to the next step. For non-workflow BPs, click **Finish Editing**.

Create a business process record by copying an existing record

You can copy an existing BP record to create another BP record of the same type.

The original data in all data entry fields, including line items (if applicable), will be copied. For most BP types, you will have the option to copy attachments to the new form. Other attached information, such as general comments, linked records, and linked uMails, will not be copied.

Note: *The copied record will reflect the data found in the original record. Auto-populated fields will not be refreshed or recalculated.*

To create a new business process record by copying another

1   Navigate to a business process log and select the BP record to copy.

2   Click the **Copy** button.

3   For some BP types, you may be given the option to copy with or without file attachments. Do one of the following:

  • Click the **Copy** button and choose **With Attachments**. This will copy any and all file attachments from the original record to the new record. This includes attachments to line items.

  • Click the **Copy** button and choose **Without Attachments**. This will create a new record without file attachments.

4   The new BP form will open. The form is at the create step, with data entry fields filled in from the copied form. These fields can be edited as needed.

Note: *Cost business processes that have been auto-created and are currently in the Initiation step (prior to create step) cannot be copied.*

AUTO-CREATING A BUSINESS PROCESS RECORD FROM A WORKFLOW STEP (S-STEP)

uDesigner users can design a business process form that automatically creates a new Unifier BP record after reaching a designated status in a workflow (for example, approved). This is known as auto-create.

The user who owns the original BP record becomes the owner of the auto-created record. After being created, the new BP is sent automatically to the next step in the workflow if it is a workflow BP. Non-workflow BPs will reside in the log.

Note: *Business processes are not auto-created in projects or shells that have the View -Only or Inactive status.*

The original BP record can be set up to automatically populate upper form (header) information on the new BP record, provided the data elements of the upper form fields are the same on both records. That is, if a Description field using the same data element appears on both BPs, the text in the original BP record can be entered automatically in the new BP record.

• Business processes that can auto-create other BPs are line-item type and cost type (generic and commit cost classifications).

• Business processes that can be auto-created are line-item type and cost type (generic cost classification).

> **Note:** *Another way to automatically create records is through integration or through setting up a BP to auto-create based on conditions met or the specified frequency set up by the administrator.*

If set up, auto-population occurs from single-record business processes (workflow and non-workflow) that are in S-step after you accept the task. The auto-population sources can be single-record business processes at the Company, project, or shell level. Both upper form data elements and detail form data elements can be auto-populated. If data elements on the auto-created (destination) business process are setup to auto-populate from a specific source, that auto-population will override the matched data element value on the auto-created business process record.

AUTO-CREATING BUSINESS PROCESS RECORDS BASED ON CONDITIONS OR FREQUENCY

uDesigner users can design a BP form that automatically creates a new BP record from a source BP to a destination (auto-created) BP after certain criteria are met. These criteria can include conditions and frequency of creation, or both a condition and a frequency. Users who have Modify Ownership permissions in the source BP can enable BP auto-creation. You can override conditional auto-creation and immediately invoke the auto-creation manually if needed.

> **Note:** *Business processes are not auto-created in projects or shells that have the View -Only or Inactive status.*

Business process auto-creation is designed in uDesigner, and further set up by the administrator. The BP Creator, location of the auto-created business process, and duration can be set up before you use auto-creation.

Business processes can be auto-created from:

• Shell to shell
• Project to shell

> **Note:** *You cannot auto-create business processes from project to project, or from shell to project.*

The auto-created record appears in the Task log of the user or group who is designated as the assignee in the business process setup. The task initially appears in the log as being sent for Initiation (Initiation step).

The auto-created BP uses the BP Creator (business process owner) data element on it (designed in uDesigner). This data element allows you to create another BP from a source BP based on a condition or frequency, or manually. The BP Creator can be specified when the auto-creation business process is set up by the administrator, or during the auto-creation process.

Uses of business process auto-creation

The records that can be created using auto-creation are:

• Record to Record: For example, an RFI creates a Change Order Request
• Line Item to Record: For example, one line item on a Meeting Minutes record creates an Action Item

You can use these auto-created BPs to manage repeated events, such as:

- **Line Items of Lease Business Process generating Payment Request BP records:** A lease business process with a pre-generated payment schedule can avail of this functionality to generate Payment Request records at appropriate preset days in advance of the payment due date to be routed for approvals.

- **Preventive Maintenance Bp line items generating Work Orders BP records:** A Preventive maintenance business process can be setup to create Work orders for assets at periodic intervals depending on the service needs of the asset.

- **Create Action Items from Meeting Minutes:** Auto-creation feature can be used to create and assign tasks to different people creating a fully automated flow for routing of action items from meeting minutes records that have lines items. For example, each line item Action Item could auto-create a separate Action Item records from the meeting minutes record.

For example, if you wanted to use auto-creation to create a Work Order BP to order maintenance on a vehicle, you would first create a Preventative Maintenance BP (the source BP) and have your Administrator set up the auto-creation of a Work Order for Vehicle Maintenance BP (the destination BP) to order the work on the vehicle.

In this example, the uDesigner user set up which BP is the source BP and which is the destination BP. The Company Administrator specifies the conditions and defaults for the auto-creation. The end user can set up the periodic auto-creation, based on their needs.

Rules for checking conditions for auto-creation

There are rules that govern when Unifier scheduler checks the conditions for auto-creation, and then if the conditions are met, auto-creates the BP.

Rule 1

The Company Administrator checked the Enable Auto creation checkbox for Bp Creator when the auto-creation was set up in Unifier.

If the Enable Auto creation checkbox is checked, it implies system based auto-creation, and the BP Creator -Select button is not displayed in User Mode.

For non-workflow BPs: The condition check occurs on **Finish Edit**. If condition met, creates record and shows the link for the auto-created BP. If no condition is specified auto-creates records and shows the link for the auto-created BP.

For workflow BPs: The condition check occurs on **Send**. If end step reached and Action Form is used on End Step, the condition check occurs on **Save** instead of **Send**. If condition met, creates record and shows the link for the auto-created BP. If no condition specified blindly creates records and shows the link for the auto-created BP.

If the Enable Auto creation checkbox is not checked, it implies manual creation.

For non-workflow BPs: The condition check does not occur on **Finish Edit**.

For workflow BPs: The condition check does not occur on **Send**.

BP Creator- Select button shown in User Mode so that user can create BP Manually. If clicked, creates BP record without checking any condition, and creates record and shows the link.

Rule2

Date Trigger Condition check: Are checks on the specified Date Data Element. Setting this up implies, that condition checks are done on a date instead of **Finish Edit/Send** in case of Non workflow and Workflow respectively provided a link does not already exist next to BP creator element. If a link already exists, it will not create any new records for that BP creator element in the chosen line item of the record.

Rule3

Trigger Condition check based on frequency (Periodic): Are checks on frequency for BP Creator elements with Enable Auto creator checked. If specified, these are the only time condition checks are done. This overrides any other checks for date.This is the only method to create multiple records even if a link already exists and a record has already been creator for this BP Creator element. The link created using this will always point to last auto-created record.

Auto-creation functionality

Upon auto-creation, the following are not copied to the auto-created business process from the source business process:

- Line item status
- BP Creator fields
- Hidden tab data
- DDS validation is not checked
- Formulae are not calculated
- No auto-population occurs

These elements are copied from the source business process to the auto-created business process on certain conditions:

- BP Pickers are not copied if the auto-creation occurs from a Project (Standard) to a shell and the BP Picker location is not defined or is no longer valid
- Configurable Manager codes and WBS codes are copied from the source business process to the auto-created business process if the codes are available in the destination shell.
- User/Group Picker values are copied only if they are available in the destination shell.
- Transaction currency field is copied if that currency is available in the destination shell.

Auto-creation and the Tasks log

Auto-created business processes are listed in the Tasks log with the Sent For status of Initiation.

The Initiation step (I-Step) is the first step that an auto-created record enters. Records auto-created using S-Step or Template do not enter I-Step. Completion of the Initiation step allows the auto-created record to enter the Creation step. When in the Initiation step, the record is listed in Task log, but not in business process or Draft logs. After a task is accepted and routed, the auto-created record leaves the Initiation step and is listed in the business process log.

BPs with this status allow you to take these actions before they are sent on to the creation step (step 1):

- View auto-populated data on an auto-created BP
- Select the owner of the auto-created BP (BP Creator)
- Select the workflow schema of the auto-created BP (for destination workflow BPs).

To accept an Initiation task

1   Click **Accept Task**.

2   Choose a schema, if there is more than one schema active.

>   **Note:** *Initiation tasks cannot be routed via e-mail.*

If set up, auto-population occurs from single-record business processes (workflow and non-workflow) that are in I-step after you accept the task. The auto-population sources can be single-record business processes at the Company, project, or shell level. Both upper form data elements and detail form data elements can be auto-populated. If data elements on the auto-created (destination) business process are setup to auto-populate from a specific source, that auto-population will override the matched data element value on the auto-created business process record.

Enable scheduled business process auto-creation dynamically

Auto-created business processes can be scheduled for creation from setups performed by an administrator, or you can create them dynamically.

To create new business process records by enabling auto-creation

1   Navigate to a business process log and select the source BP record or records to use for auto-creation.

2   Choose **File > Auto-create**.

3   Select the **Enable Scheduled Auto creation** checkbox.

4   Click **OK**.

5   After the new BP record is auto-created, there is a link in the source BP record to the newly created record. Click this link to access the auto-created record. The link always accesses the last record created by auto-creation.

Stop the creation of auto-created business process records

To stop the creation of new auto-created business process records

1   Navigate to a business process log and select the source BP record or records to use for auto-creation.

2   Choose **File > Auto-create**.

3   De-select the **Enable Scheduled Auto creation** checkbox.

4   Click **OK**.

Create business process records with manual auto-creation

To create a new business process record with manual auto-creation

1   Navigate to the source BP record to use for auto-creation.

2   Click the **Create** button next to the BP Creator field. The destination BP record is auto-created immediately without checking auto-creation conditions.

3   After the new BP record is auto-created, there is a link in the source BP record to the newly created record. Click this link to access the auto-created record.

CREATING A BUSINESS PROCESS RECORD FROM WITHIN THE DOCUMENT MANAGER

If you have access to the Document Manager, you can create a business process directly from the Document Manager's project or shell Documents node. In project or shell Documents, select the documents or folders to attach and click **New > Business Process**. For more details, see Chapter 10, "Document Manager".

CREATING A BUSINESS PROCESS RECORD FROM A TEMPLATE

If you have created a business process template for a BP, you can manually create BP records by copying the template.

Creating a BP record from a template is similar to copying an existing BP record. Any values in any of the form fields on the template (either manually entered or auto-populated) will be copied to the new record. Line items, file attachments, and attachments to line items will also be copied. Other attached information, such as general comments, linked records, and linked uMails, will not be copied to the new form.

Create a business process record from a template

To create a business process record from a business process template

1   Navigate to a business process log.

2   In the BP log, click the **File** menu and choose **Template**. The [BP name] Template List window opens, which displays the list of templates created for the selected BP.

3   Select a template from the list and click **Open**. The BP form opens. Data is prepopulated based on the template. You can modify the data or enter additional data.

> **Note:** *You can save the record by clicking the* **Save** *button, which saves a draft of the record but does not affect the template. When the BP is ready to move to the next step, click* **Send**.
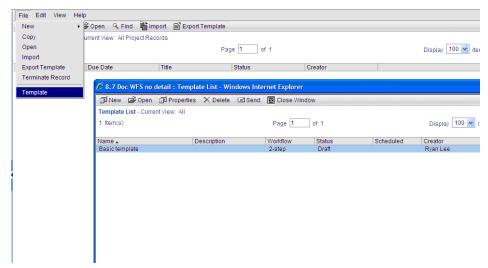
Figure 5-23 Create a new record from a template

UNDERSTANDING AUTO-POPULATION AND REVERSE AUTO-POPULATION FOR BUSINESS PROCESSES

Using uDesigner's auto-population feature, you can automatically populate fields on a form at the time the form is created. Auto-population can occur on BPs that are in the same shell, or across shells. Using auto-population means that you do not have to enter data in every field in a form. For example, you could use this feature to automatically fill in a "Plant Location" field from an attribute form. For another example, you could set up the date field on a time sheet to default to the server date and time so that users do not need to use a date picker. You could also set up a field to automatically display a title or other boilerplate text for common forms users need to fill in on a frequent basis.

Depending on the set up in uDesigner, auto-population can occur in these instances:

You can populate fields on a form from the following sources:

- Fields on an attribute form or another business process form

- Shells

- Fields from an upper form (to populate a field on a detail form)

- The total value from a line-item numeric field (can populate a field on an upper form; becomes a read-only field)

- Fields on single-record BPs at the company, shell, or standard project level

- Fields on an SOV (for a payment application BP)

- Fields from document properties of a line item attachment

- A constant value you enter when you auto-populate the field

For shells and business process records you can:

- Auto-populate of data in upper form of BP records from:

  - Attribute form of current shell or parent shells

  - Upper form of single record BP of current shell or parent shells

- Auto-populate of data to the shell attribute form from:
  - Attribute form of any parent shell
  - Upper form of single record BP in any parent shell

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be automatically updated when other values are modified in a BP form.

Note: Reverse auto-population does not occur for projects and shells with View-Only or Inactive status.

Business cases that might result in reverse auto-population are:

- A work order BP can reference preventive maintenance BP line items. Certain updates in the work order can be reverse auto-populated on the preventive maintenance BP line items. For example, a machine might have had preventive maintenance at 1,800 hours of operation and need it again at 3,600 hours of operation.
- Changes to the detail form in a BP under a child shell can result in changes to the upper form of a single record non-workflow BP under any parent shell in the shell hierarchy.
- Lease payment request BPs are auto-created from a lease BP. An approved payment request can reverse auto-populate the lease BP's line item status to approved.
- A move order BP can reference an asset record. Updates on the move order can be reverse auto-populated on the asset.

Note: Reverse auto-population is not supported for single-record business processes, except in the case of BPs existing under child shells, which can reverse auto-populate to single-record BPs under any parent shell in the shell hierarchy.

CREATING BUSINESS PROCESS TEMPLATES AND SCHEDULING BUSINESS PROCESS CREATION

You can create templates for project- or shell-level and company-level workflow business processes. This allows:

> You can create templates only for workflow business processes.

- Easy creation of records for business processes that you use often or are recurring (for example, lease renewals or time sheets)
- Scheduling automatic creation of recurring BP records

This section discusses how to:

- Create and edit business process templates
- Schedule automatic business process record creation from the template

Note: When you create BP records from a BP template, any values in any of the form fields on the template (either manually entered or auto-populated) will be copied to the new record. Line items, file attachments, and attachments to line items will also be copied. Other attached information, such as general comments, linked records, and linked uMails, will not be copied to the new form.

Create a business process template

You can create a template for any business process for which you have at least "view user records" permission.

To create a template

1 In User Mode, navigate to the log containing the business process for which you want to create the template.

2 In the Navigator, select the business process.

3 Click the **File** menu and choose **Template**. The Template List window for that business process opens. The window displays any templates that have been created for the selected BP.

4 Click the **New** button. The Properties window opens.

Figure 5-24 General tab

5 Use the information in the table below to fill in the General tab.

In this field:	Do this:
Name	Enter a name for the new template.
Description	Enter a description of what this template is used for.
Workflow	Select the workflow that should be used for the BPs that will use this template.
Refresh auto-populated and calculated fields on record creation	(For simple type business processes only) Select this check box if the values in the fields that are auto-populated and calculated should be refreshed whenever a record is created from this template. If this simple type BP contains fields that are being auto-populated from the attribute form of the current or any parent shell in the hierarchy, or from a single-record business process in any parent shell in the hierarchy, you can refresh these values so that this new record contains the latest data.

Although the Schedule tab is visible, it is disabled until you have changed the status to Complete. At this point, you can use this template to manually create BP records; however, if you want to schedule automatic creation, you must first change the template status to Complete.

6   Click **OK**.

     Unifier adds the template to the Template List with a status of Draft and opens the form as it
     would in the create step of the workflow. This form will be used as the template.

7   Enter any information into the template form that you want to include in the records that
     you create from it.

8   You can add line items as needed. You can also add
     file attachments, which will be attached when a
     record is created from the template. This includes
     attachments to the record itself and attachments to
     line items.

     > You can add linked records, linked uMail,
     > and general comments to the template,
     > but these will not be included in the
     > records created from this template.

9   Click the **Save** button at the top of the form.

     Unifier saves the template in Draft mode, and the window remains open. You can use the
     template at this point to manually create BP records; however, if you want to schedule
     automatic creation, you must first change the template status to Complete (see the following
     procedure).

Change template status (Draft and Complete)

Each template will either be in Draft mode or Complete mode. You can change the status of a
template between the two statuses at any time. The template status controls whether a BP
creation schedule can be defined.

If the template status is Draft, the template can be edited and used to manually create BP
records. Required fields and assignee information can be left blank. Scheduled record creation
cannot be performed.

If the template status is Complete, the Schedule tab of the Properties window is activated and
can be used to define and schedule automatic record creation. The form is no longer editable
(unless changed back to Draft). Required fields and assignee information must be completed
before the status can be changed to Complete.

To change the status of a business process template to Complete

1   In User Mode, navigate to the log of the business process for which to edit the template.
     Click the **File** menu and choose **Template**. The Template List window opens.

2   Select a template and click **Open**. The template form opens.

3   Complete the BP form:

     • Complete all required fields.

     • Be sure the rest of the template form is filled out appropriately, including line items and
       attachments, if applicable. Remember that if you will be scheduling automatic record
       creation from this template, the information that you enter here will used for the creation
       step and sent to the first step in the workflow.

     • Select a workflow action (for the first step in the workflow).

     • Complete the assignees information (To field) as necessary.

4   Click the **File** menu and choose **Template Status > Complete**. A validation check will verify
     the following:

     • All required fields have valid data (and all other information on the form is valid).

- The workflow action has been selected.
- The Action Details/Assignees section To field is populated with valid users or groups, based on the BP setup.

When the status is Complete, the template form becomes view-only. If you have defined a record creation schedule in the Schedule tab, the schedule will be activated.

To change the status of a business process template to Draft

1 Open the template form.

2 Click the **File** menu and choose **Template Status > Draft**.

3 At the confirmation window, click **Yes**.

In Draft mode, the template form becomes editable. Scheduled record creation is disabled until you change the status back to Complete.

Schedule automatic business process record creation based on the template

You can schedule automatic BP record creation runs that are based on a BP template. The templates must have a status of Complete before you can define and activate the schedule.

For information on manual creation from a BP template, see "Create a business process record from a template" on page 164.

To define a BP creation schedule

Note: Business process creation cannot be scheduled from a template in projects or shells that have the View -Only or Inactive status.

1 In User Mode, navigate to the log of the business process for which to edit the template.

2 Click the **File** menu and choose **Template**. The Template List window opens.

3 Select a template and click **Properties**. The Properties window opens.

4 Click the **Schedule** tab.

5 Complete the Schedule tab as described in the following section.

6 Click **OK**. The schedule is active as long as the template status is Complete.
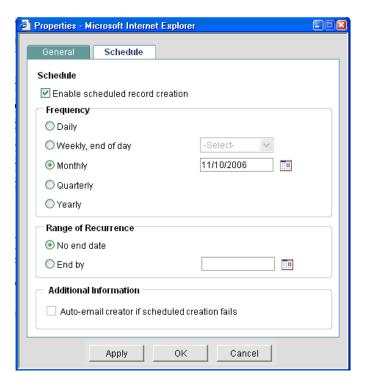
Figure 5-25 BP Template Properties window, Schedule tab

In this field	Do this
Enable scheduled record creation	Select this checkbox if you want to enable automatic record creation based on the schedule defined below.
Frequency	The frequency determines how often the new records are created from the template. The options are: • Daily • Weekly (select the day of the week) • Monthly (select the day of the month) • Quarterly (runs on the last day of the calendar quarter) • Yearly (runs on the last day of the calendar year) All scheduled record creation is performed at 11:59:59 PM (PST).
Range of Recurrence	Choose one of the options: • No end date (runs until changed or schedule is disabled) • End by (select an end date)
Auto-email creator if scheduled creation fails	Select this option if you want the template owner or creator to receive e-mail notification if the scheduled creation fails.

Edit or delete a business process template

Users with view permission to a business process log will be able to view any associated templates. The template form and properties can be edited by the owner or creator and by users with Modify Record Ownership.

Only the owner or creator of a template can delete it.

To edit a template

1   In User Mode, navigate to the log of the business process for which to edit the template. Click the **File** menu and choose **Template**. The Template List window opens.

2   Select a template and click **Open**. The template form opens.

3   The fields, line items, file attachments, and other data are editable. You cannot change the workflow once the template has been created.

To delete a template
In the Template List window, select the template and click the **Delete** button. Click **Yes** to confirm.

Edit or cancel a business process schedule

To edit a business process schedule
You can edit the schedule information in the Schedule tab at any time. The Schedule tab is active only when the BP status is Complete. After saving changes, the new schedule will be activated immediately.

To pause or cancel scheduled business process creation
Do one of the following to deactivate scheduled BP creation:

• Open the Properties window, and choose the **Schedule** tab. Deselect the **Enable scheduled record creation** checkbox. To reactivate the schedule, select the checkbox.

• Open the template form and change the status to Draft (from the **File** menu, choose **Template Status > Draf**t). As long as the template remains in Draft mode, the BP schedule will be inactive. You can still manually create BP records from a draft template. To reactivate the schedule, change the status back to Complete.

If the scheduled record creation fails

If a scheduled BP creation fails, e-mail notification will be sent to the template owner (as long as the checkbox enabling the notification has been selected on the Schedule tab of the template Properties window). Following are conditions under which scheduled record creation can fail:

• The To field is empty. This is possible if the assignee user becomes inactive after the schedule is created or if a group is empty.

• WBS code is invalid, which can happen if the WBS code becomes inactive after selecting in the template.

• If the rules engine validation fails.

• For payment applications, if the associated SOV is locked either by the payment application record in routing, or by a change commit with a negative line item value.

Create a business process record from a template

You can manually create a business process record from a template if one has been created.

To create a business process record from a business process template

1   Navigate to a business process log.

2   From the log, click the **File** menu and choose **Template**. The template list window opens.

3   Select a template and click **Open**. The business process form opens. Data is prepopulated based on the template. You can modify the data or enter additional data.

> **Note:** *You can save the record by clicking the* **Save** *button, which saves a draft of the record but does not affect the template. When the BP is ready to move to the next step, click* **Send***.*

COMPLETING THE FORMS

. . . .

This section discusses entering information onto the form, linking other records or uMail messages, and more.

ADDING AND MANAGING LINE ITEMS

Detailed information, such as transactions, can be entered as line items on cost- and line-item-type BP forms, as well as on document-type BPs, if they have been designed to accommodate documents that are attached as line items.

You can edit or delete line items on a BP form as long as the form is still editable; that is, before it reaches its terminal status (for example, approved). If you add a new line item in any step (other than the creation step), you can modify the line item until the BP is sent to the next step. The line item status will always default to the default line item status specified in the design. Users with permission can change the status if modification to the line item status is allowed in that step.

> Document and line item BPs can be designed to include line item status control, which allows users to choose a status for individual line items and control whether they can be modified.

If designed in uDesigner, there may be multiple tabs in the line item area of your BP form. Click these tabs to access the various line items.

You can enter line items using either a line-item entry form, or the Grid feature. Line item entry forms open in a separate window, which you must fill in and click OK to insert into the line item list at the bottom of the form. With the Grid feature, you can enter information directly into the line item list, but it is best used for short line items.

Add line items using a line-item entry form

You can add either a detail or a summary line item.

To add a line item

1 On the BP form, click the **Add** button and choose **Summary Line Item** or **Detail Line Item**. The Line Item window opens.

2 Fill in the line item fields, then click **OK**.

For information about adding documents to document type BPs with line items, see "Attach files to document-type business process forms" on page 184.

Edit or remove line items

To edit a line item
As long as the BP form is still a draft, you can edit a line item at any time by selecting it and clicking **Open**. The Line Item form opens. Make changes and click **OK**.

To remove a line item
In the BP form, select the line item to remove, and click **Remove**.

To edit line items on cost business processes

If configured in uDesigner (with the Allow Modify Line Item checkbox selected), then you can edit line items on cost business processes under the following circumstances:

• For workflow business processes, you can edit cost line item information at any step in the workflow, except for the end step. If the original line item data has already rolled up to the cost sheet, then the cost sheet will reflect the modified data after sending the business process to the next step.

• For non-workflow cost BPs, line item data can be modified before clicking the **Finish Editing** button.

Note: *If the line item contains Yet To Buy (YTB) or AFC values, it cannot be modified.*

This table lists the classifications of business processes and locations that allow the edit of line items on cost business processes:

Classification	Project (Standard)	Shell (WBS Code)	Shell (Generic Code)	Company Workspace	Edit Line Item
Line Item with WBS Code	Yes	Yes	No	No	Yes
Line Item with Both Fund Code and WBS Code	Yes	Yes	No	No	No
Line Item with Fund Code	Yes	Yes	No	No	No
Line Item with Account	No	No	No	Yes	No
Line Item with Asset Code	No	No	No	Yes	No
Line Item with Multiple Codes	No	No	Yes	No	Yes
Commit at Company Level	No	No	No	Yes	No

Add and manage summary line items

uDesigner cost and line item BPs support summary line items. This allows regular line items to be grouped together, with only the summary appearing on the BP. The sub line items are rolled up to other areas such as the Cost Manager.

To add summary line items

1 From the BP form, choose **Add > Summary Line Item**. The Summary Item window opens.

2 Click **Save**, and then click **Close Window**.

The summary line item will appear at the top of the line items area of the BP form in bold. The amount column will show the sum total of the line items you added.

To edit or copy a summary line item

From the Summary Line Item window, you can edit or copy summary line items just as you would line items in the BP form (see the previous procedures).

To remove a summary line item

1   In the BP form, double-click the **Summary Line Item**. The Summary Line Item window opens.

2   Select the line items in the summary (press **Shift** or **Ctrl** to select multiple line items). Click **Remove**.

3   Click the **Delete Summary** button. Click **Yes** to confirm.

Copy a line item from the same form

You can create a new line item by copying an existing line item. You can choose to include any attachments that are on the source line item.

To copy a line item

1   In the business process form, select the line item to copy.

2   Click **Copy**, and choose **Copy Line Items**.

3   A confirmation window opens. To copy any attachments from the original line item to the new line item, click **Yes**. To ignore any attachments, click **No**.

4   The Line Item window opens, with the original line item fields filled in. You can leave the data as is or make necessary changes.

5   Click **OK** to close the window.

Copy and consolidate line items from different business process forms

Business processes can be designed to accommodate line item consolidation: the ability to select individual line items from one or more BP records (the source BPs) and copy them into a new record (the destination BP). The selected line items can be from the same BP type, or they can be from different types, as long as they are compatible (see the table below). The source and destination BPs must be at the same level (both company level or both project or shell level). File attachments can also be copied.

This functionality is built into business processes through the uDesigner design, which includes specifying which BPs can be used for the source and destination. Also, the ability to filter the business process records that can be consolidated (by status) can be added in uDesigner. This enables you to filter the records you see in the list to consolidate by the record status, allowing you, for example, to exclude records that have the status of Pending or Rejected.

For example, this functionality can be used to consolidate specific line items from multiple change order requests submitted over a period of time into a single change commit.

The following BP types are supported:

• Cost type (except payment applications)
• Document (with a detail form)
• RFB (Requestor form only)
• Line item type

There are some restrictions when consolidating line items from different BP types:

	Source (across)			
Destination (down)	Cost Type	Doc Type	RFB	Line Item
Cost Type	Yes	No	No	No
Doc Type	No	Yes	No	No
RFB	Yes	Yes	Yes	Yes
Line Item	Yes	Yes	Yes	Yes

To copy line items from one or more business process records into another

1. Open the business process record into which the line items will be consolidated (the source business process).

2. From the BP toolbar, click **Copy** and choose **Consolidate Line Items**. The Line Items Consolidation window opens. This window lists the business processes that have been designed to be eligible for consolidation with this BP.

3. Select the source business process and click **OK**. A list window opens, displaying the BP log of the source BP and list of eligible records.

4. Optionally, for BPs in shells, you can specify the shell. This allows you to specify the shell to use as the source to list BPs for consolidation. If you do not specify a location, BPs are listed from the current location.

   Note: *View-Only shells are not available to select to access business processes for line item consolidation.*

5. Select a record from the list. To search for a particular record, click **Find**.

6. To copy specific line items from the selected record:
   - Click the **Select Line Items** button. The BP Line Item(s) window opens, displaying the Line Item List for that record.
   - Select one or more line items and click **Copy**.
   - Choose **With Attachments** to include any file attachments that may be present on the line item to be copied, or choose **Without Attachments** to ignore attachments.

7. To copy all line items from the selected record:
   - Click **All Line Items**.
   - Choose **With Attachments** to include any file attachments that may be present on the line item to be copied, or choose **Without Attachments** to ignore attachments.

8. You can select another business process record and repeat. Close this window by clicking the **Close Window** button.

The consolidated business process record contains the copied line items.
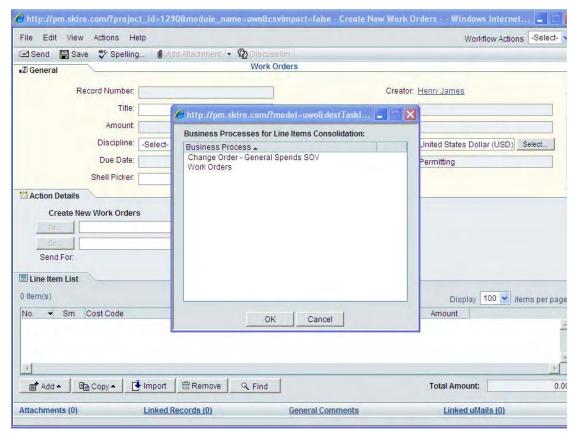
Figure 5-26 Business processes that are designed for line item consolidation

Note the following:

- You can copy the same line item more than once.
- If there is a BP Line Item picker on the source and destination detail forms, the BP Line Item picker data will be ignored (will not be copied) while copying line items.
- BP picker information can exist on source and destination detail forms. Data will be copied only if the underlying BP picker reference is the same on both the source and destination. If the reference is not the same, data will not be copied. For example, a destination BP has a BP picker on the detail form that references a vendor BP. To populate data via this BP picker, the source BP must have a BP picker that is the same vendor BP. If it is not, the vendor data cannot be copied.
- A Commit Line Item picker on the detail form of a change order business process will allow you to select a line item from SOV (contract + change orders). A Commit Line Item picker always works in conjunction with a Reference Commit picker on the upper form. The Reference Commit picker on the source and destination should refer to the same base contract.
- If the destination line item form and the source line item form both contain a data element that is designed to be auto-populated from another source, the auto-populate will be ignored during consolidation. The copied line item data will take precedence over auto-populated data in the destination BP.

ADDING AND MANAGING LINE ITEMS USING THE GRID FEATURE

For Line Item business processes, Unifier provides a Grid feature that shows the line-item entry form in a lateral sheet view, where you can enter the data directly onto the line item list without having to open a line item form. In this regard, the sheet works the same way the line-item entry form works—rows might not be editable because of their statuses, auto-populated fields will be filled in for single-record BPs, if a yet-to-buy amount has already rolled up from a cost BP to the cost sheet, you will not be allowed to modify the line item, etc.

> The Grid feature is best used for short line items.
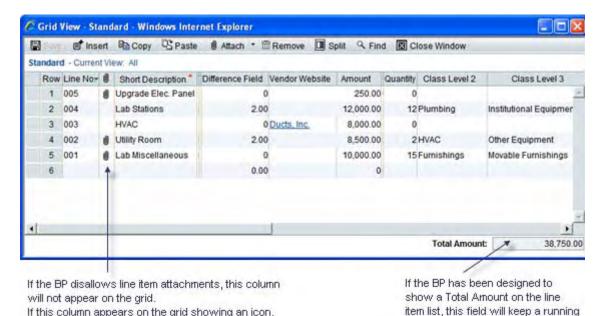
If the BP disallows line item attachments, this column will not appear on the grid.
If this column appears on the grid showing an icon, you can double-click on the icon to see a list of the attachments to the line item.

If the BP has been designed to show a Total Amount on the line item list, this field will keep a running total of the amounts as they change.

Figure 5-27 Grid View

The grid shows the line item number and all the fields on the line item entry form, including fields that are required, formulaic, or populated, as well as fields that are part of a dynamic data set. The fields on this grid work the same way they do on a line item entry form—pickers display picker windows, menus display lists, formula fields produce calculations, date picker fields display calendars, etc.; however, radio buttons will appear as pull-down menus, and image, hyperlink, and BP Creator fields have special behaviors.

You can resize the columns by dragging, and sort the data by column (except for Row and image fields). You can use the **Tab** and arrow keys to move from field to field and open them. For business processes that include many line items, you can use the **Find** function to filter the list to display only certain line items.

> The Grid feature is not available on:
> * RFB bidder forms
> * Line Item with WBS Code BPs (Transfer class)
> * Line Item with Asset Code BPs
> * Line Item with Multiple Codes BPs (Transfer and Lease classes)
> * Simple type BPs
> * Document type BPs
> * Resource Booking type BPs for project/shell
> * Project/Shell Creation BPs (Simple class)

Last One to Save Wins! (Except for Deleted Rows!)

The Grid feature can be used simultaneously by multiple users. To accommodate multiple editors using the grid simultaneously, the commit order of saved edits is on a line-by-line basis, not on the entire grid view. If two users are editing the same line item, but different fields, at the same time, the edits made by the last user to save that line item are the edits Unifier will commit to the record.

For example, if User 1 changes an amount field from 15,000 to 23,000 and saves the change, and User 2 changes a different field, but does not touch the amount field, when User 2 saves the grid, Unifier will commit User 2's edits; and the amount field will show 15,000 rather than 23,000.

The order of saved edits is particularly important for deleted rows on the grid. Once a row is deleted, it cannot be reinstated with a later edit. For example, if User 1 deletes a row and saves the grid view, and User 2 changes the amount field in that row from 15,000 to 23,000 and saves the grid view, the row will **not** be reinstated with the new amount of 23,000.

To make editing line items easier, you can use the **Split** button to split the screen into two halves.
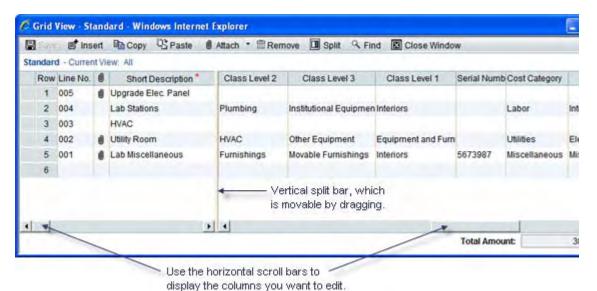
Figure 5-28 Horizontal bars in Grid View

If Unifier detects errors when you save line items, error messages will appear at the bottom of the Grid window, indicating the row where Unifier found the error.
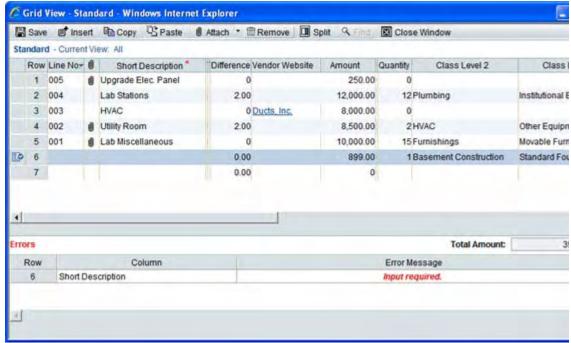
Figure 5-29 Grid View errors

What is not available on the grid:

• Summary row functions

 Summary line items do not appear on the grid and cannot be created on the grid. In addition, line items within the summary do not appear.

• Transaction currencies

• Line item consolidation

• Import function

Filtering the line item list

Some business processes can include many line items, and filtering the list of line items can make the grid easier to use. To narrow the list of line items you see, you need to use Unifier's Find function. The Find function will search for and display specific line items according to the criteria you specify.

To filter the line item list

1   On the BP form, click the **Grid** button.

2   On the Grid, click the **Find** button. Unifier displays the Find window.

Below is an example of the Find window.

Figure 5-30 Example Find window
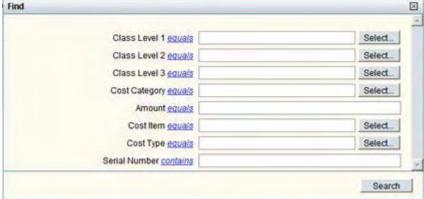
The Find window shows fields from the line item list, which you can use to narrow the list of line items you see on the grid. Each field shows an *operator*, such as "contains" or "equals," which you can use to specify more precisely which line items you want to see on the list. In the example Find window above, you could narrow the list of line items to show only certain class levels or cost categories.

3 To specify search criteria, first choose the operator you want to use on the field, such as "equals," "does not contain," or "is empty".

4 Enter the value the field should contain, or click the **Select** button and select the value from the list that appears.

5 Click **Search** (or press **Enter**).

Unifier displays all the line items that met the search criteria you entered.
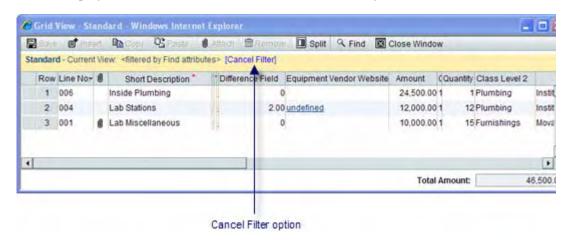
Figure 5-31 Grid find view with cancel filter option

If you choose to, you can cancel the filtering action by clicking **[Cancel Filter]** or the **x** icon in the upper-right corner of the Find window. Unifier will restore the list of line items to its unfiltered state.

Adding line items using the Grid

1   On the BP form, select the tab containing the line items you want to add to.

2   On the Line Item window, click the **Grid** button. The Grid window opens, showing a new, empty row at the bottom of the list to use for the new line item.
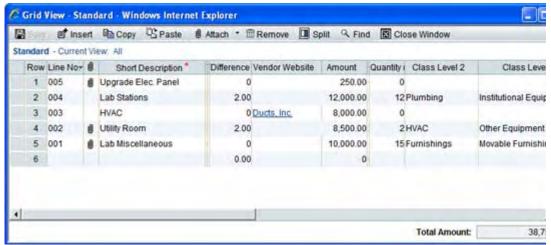
Figure 5-32 Grid View example

3   To enter data into the grid, double-click a cell in the new row. The cell opens for editing.

As soon as you begin adding a line, a change icon appears in the first column as a reminder that a line item has been added to the record, and the **Save** button becomes active.
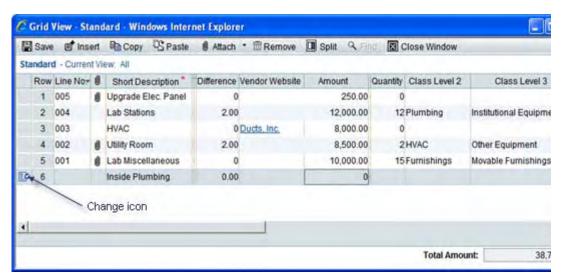
Figure 5-33 Grid View with change icon

4   Fill in the fields on the grid as necessary.

5   (Optional) To include an attachment to a line item, click the **Attach** button.

An upload window opens.

   a   Click **Add** and navigate to the file you want to attach.

   b   Select the file, click **Open**, then click **Upload**.

   c   When the upload is complete, click **Close**.

6   To save the line item to the record, click **Save**.

When you save the line item, Unifier refreshes the grid view, removes the change icon, adds the line item to the list, and inserts a blank line at the bottom of the list for another new line item. It also updates the line item list on the BP form.
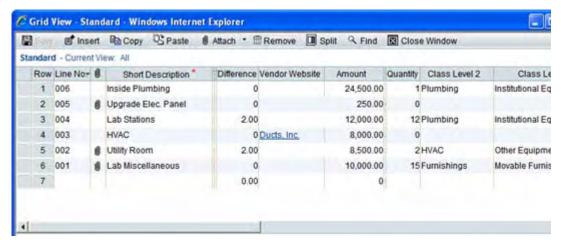
Figure 5-34 Grid View example

7   To add additional line items, repeat steps **3** through **5**.

Editing line items using the Grid

1   On the BP form, select the tab containing the line items you want to edit.

2   Click the **Grid** button.

3   On the Grid, double-click the cell you want to edit. The cell opens for editing.

As soon as you begin editing, a red change icon appears in the first column as a reminder that the line item has been modified, and the **Save** button becomes active.

4   Click **Save**.

When you save the line item, Unifier refreshes the grid view, removes the change icon, and updates the line item list on the BP form.

5   To edit additional line items, repeat steps **1** and **2**.

6   When you have finished, click the **Close Window** button.

To edit an image field

An image field on the grid displays only an image icon; however, you can see a thumbnail of the image if you double-click on the icon. If you want to change or remove the image, double-click the cell anywhere but on the icon. Unifier displays a menu, from which you can choose to upload a different image, or remove the image.

To edit a hyperlink field

If you want to change a hyperlink, double-click the cell anywhere but on the hyperlink. Unifier displays the Hyperlink window, where you can change or remove the link.

Inserting a row into the grid

Inserting a row in the grid can be convenient if you have a long list of line items. Unifier automatically opens a new line item at the bottom of the list, but if the list is long, it can be more convenient to insert line items wherever you are in the list. When you save the grid view, Unifier re-sorts the added rows into their proper place.

To insert a row or rows

1   On the Grid, select a row and click the **Insert** button on the toolbar.

To insert multiple rows, click the **Insert** button again. Unifier inserts the row(s) above the row you selected.
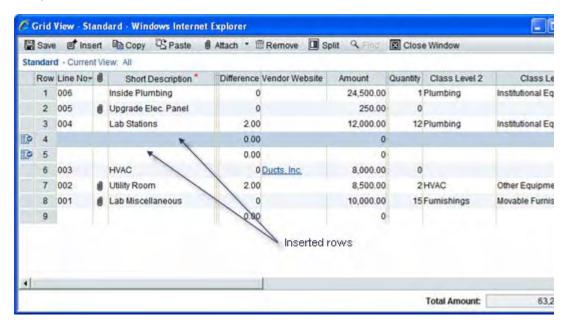
Figure 5-35 Grid View inserted rows

2   Fill in the line item fields and click **Save**.

Unifier reassigns the line numbers as follows:

- If any rows have been deleted during an edit, the line numbers are reused so that the line numbering remains continuous. (Exception: If the amount on a WBS line item has been rolled up to the cost sheet, the line number will not be reused.)
- After deleted line numbers have been reused, any new line items are assigned numbers in ascending or descending order, depending on how the sort order was specified when the line item list was created.

Manually creating a BP from the Grid

A BP Creator field configured for automatic creation mode will appear as a read-only field on the grid. But if the field is configured for manual creation, you can set up the BP creation from the Grid. The new BP will be created when you finish editing the form, or send the BP form on to the next step in the workflow.

To manually create a BP

1   Double-click the BP Creator field.

The field will display the words "**Pending Creation**."

2   Click **Close Window** to close the Grid and return to the BP form.

3   On the BP form, click **Finished Editing** (if this is a non-workflow BP), or **Send** to send the BP form on to the next step in the workflow.

Unifier creates the new BP. After the BP has been created, this field will show a hyperlink to the new BP.

To prevent a BP from being created

1   Double-click the BP Creator field.

The field will display the words "**Pending Creation**."

2   Double-click the BP Creator field again.

Unifier clears the text from the field, and will not create the BP.

Copying a line item

1   On the BP form, select the tab containing the line item you want to copy.

2   On the Line Item window, click the **Grid** button. The Grid window opens

3   Select the line item (or items, using the **Ctrl** key) you want to copy and click the **Copy** button.

4   Select a line and click the **Paste** button. Unifier pastes the copied line item(s) into the row(s) above the selected line, giving it (or them) a line item number of 0.

5   Click **Save**. Unifier renumbers the line item(s) with the next incremental number(s), and updates the line item list on the BP form.

ADDING AND MANAGING GENERAL COMMENTS

uDesigner BPs provide a general comments section that allows you to add text comments that are like notes that accompany the business process but do not become part of it. Depending upon the workflow setup and your permission settings, you may be able to hide or delete comments.

You can also attach supporting documents to your comments, which do not become part of the attachments of the BP itself, or mark up attached documents. See "Working with File Attachments and Markups" on page 183.

You may also initiate a discussion group to help you draft your comments or markups. See "Working with Discussion Groups" on page 213.

You can add general comments if you are a task assignee or if you have been copied (cc'd) on the BP. This is dependent of the design and configuration of the BP as well as user permissions.

Add comments to a business process form

When you add a new comment to a BP form, it remains as a draft until you send the form to the next step in the workflow. Draft comments remain editable until you send the form. After that, they cannot be modified.

To add general comments to the business process form

1   At the bottom of the BP form, click the **General Comments** link. The General Comments window opens.

    Note: If any comments already exist on this BP, they will be listed in the Comments section of the window.

2   Click **Add**. The Edit General Comment window opens.

3   Type your comments in the text box. You may spell-check by clicking the **Spelling** button.

4   To add files to the comment, click **Attach**.
    • **My Computer:** Attach the file from your local system. The procedure is the same as for uploading files to the Document Manager and depends on your file transfer option.
    • **Unifier Folder:** Attach documents from the Document Manager. The window opens displaying the project or shell documents files and folders. Select the files and folders to attach and click **OK**. Folders are not attached. Instead, the contents of selected folders are attached in a flat list. Documents with duplicate file names will not attach.

5   To copy information in a previous draft comment, click the **Copy From** button. See "Copying and Consolidating Comments and Markups" on page 215 for more information.

6   Click **OK** to save the comment and close the Edit General Comment window.

    Note: The Text Comments box does not recognize formatting, including line breaks. Even if you press the **Enter** *key to make a new line in the Edit General Comment window, the final comment will not reflect the new line.*

7   Click **Close Window** to save your comments and return to the BP form.

An icon will appear at the bottom of the form next to the General Comments link.

Add comments to a document type business process

To add comments to an attached document on a document type business process

1   Select the document from the document list at the bottom of the form.

2   Click the **Comments** button.

3   Click **Add** to add the comment. Enter the text comment. Click the **Spelling** button to spell-check the comment.

4   You can also add a graphic markup to the document or attach a file to the comment.

5   Click **OK**.

Note: If the document type BP has been designed to use line item status, and a specified status has already been reached (e.g., approved), the line item may no longer be editable, and you may not be able to add comments to it.

View comments

If a BP form has comments added, a Comments icon will display next to the General Comments link.

To view comments on a business process form

Click the **General Comments** link at the bottom of the BP form. The General Comments window opens displaying previous comments. You can collapse or expand individual comments by clicking the arrow in the upper left corner of each comment.

Edit or delete comments

When you add a new comment to a BP form, it remains as a draft until you send the form to the next step in the workflow. Draft comments remain editable until you send the form. After that, they cannot be modified. (You can only modify your own comments, and only if you have not yet sent the BP to the next step in the workflow after creating the comments.)

Comments can be deleted after being sent only if the BP workflow has been set up to allow deleting of comments.

To edit a comment

From the General Comments window, select the comment to edit and click **Modify** from the toolbar. The Edit General Comment window opens. Make the necessary edits. Comments are editable until you click **Send** (workflow BP) or **Finished Editing** (non-workflow BP).

To delete a comment

From the General Comments window, select the comment to delete and click the **Remove** button. Draft comments can be edited before sending a BP. You must have proper permissions to delete final comments.

Hide comments

You can hide comments that you do not want to be generally viewed on workflow business processes. If you have permissions, you can view previously hidden comments. Other users will not be able to see the hidden comments unless they have the View Hidden Comments permission set, and using that permission, can also unhide the hidden comments. As the creator of the comment, you can view your own hidden comments, whether or not you have the View Hidden Comments permission (until the comments are published).

To hide or unhide comments

1   From the Comments window, select the comment to hide and click the **Hide Comments** button at the bottom of the window. The color of the hidden comment title bar lightens, and the Hidden Comment column will display Yes.

2   To unhide the comment, select it and click **Unhide Comments**.

Note: *Due the nature of end steps, you cannot hide or delete comments on the end step of the workflow, even if the end step is an action (editable) form.*

Add comments to an attached document

For document-type BPs (such as transmittals or submittals), you can add comments directly to an attached document.

To add comments to an attached document

1   Select an attached document in the Attachments portion of the document-type BP.

2   Click the **Comments** button on the toolbar. The File Comments window opens.

3   Click **Add**. The Edit General Comment window opens.

4   Type your comments in the text box. You may spell check by clicking the **Spelling** button.

5   You can hide comments on the attachments of workflow business processes by selecting the **Hide Comment** checkbox. See "Hide comments" on page 181 for details on working with hidden comments.

6   Click **OK**.

To attach files to comments

To add files to the comment, click **Attach** and choose:

- **My Computer:** Attach the file from your local system. The procedure is the same as for uploading files to the Document Manager and depends on your file transfer option.
- **Unifier Folder:** Attach documents from the Document Manager. The window opens displaying the project or shell documents files and folders. Select the files and folders to attach and click **OK**. Folders are not attached. Instead, the contents of selected folders are attached in a flat list. Documents with duplicate file names will not attach.

Note: The attachment sources (My Computer and Unifier Folder) that are available depend on the BP design. Both choices may not be available for a given BP.
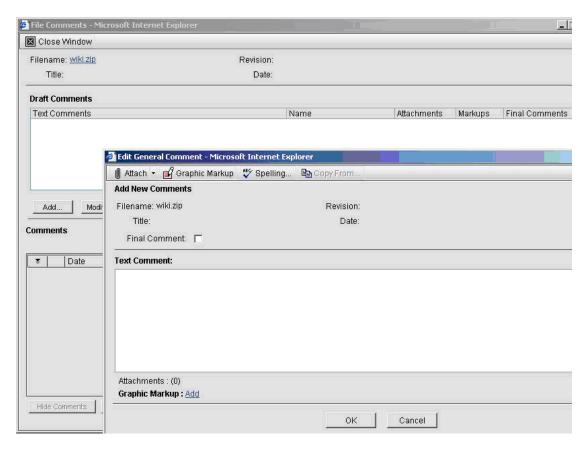
Figure 5-36 Edit General Comment window

WORKING WITH FILE ATTACHMENTS AND MARKUPS

You can attach copies of any number of files to be routed with the BP form. These can be documents that are sent within a document-type BP, such as a transmittal, or they may be supporting documents that are attached to a BP record of any type in the General Comments section.

If you are uploading drawing files, see for handling drawing file attachments.

You may also initiate a discussion group to help you draft your comments or markups. See .

Note: *You cannot upload and attach two documents with the same name to a BP record. If you are using a document-type BP (such as a submittal or transmittal) and are using a folder structure, you can have two documents with the same name in different folders, as you would on a local machine or network drive.*

Attach files to business process forms

You can attach files to BP forms directly from your local system or from files that are already part of the Document Manager. For document-type BPs, such as transmittals, you can attach files to the BP that are part of the transmittal package. For all BPs, including document type, you can also attach files as supporting documentation.

Open the form to which you want to attach files and follow one of the procedures below.

Files can be attached to uDesigner-created forms through General Comments.

To attach files to a business process form

1 Click the **General Comments** link at the bottom of the form, and then click **Add** to open the Edit General Comment window.

2 Click **Attach** and choose:

   • **My Computer:** Attach the file from your local system. The procedure is the same as for uploading files to the Document Manager and depends on your file transfer option.

   • **Unifier Folder:** Attach documents from the Document Manager. The window opens displaying the project or shell documents files and folders. Select the files and folders to attach and click **OK**. Folders are not attached. Instead, the contents of selected folders are attached in a flat list. Documents with duplicate file names will not attach.
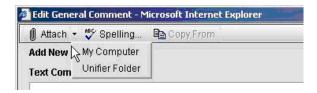
Figure 5-37 Attach a file to a BP

> **Note:** *The attachment sources (My Computer and Unifier Folder) that are available depend on the BP design. Both choices may not be available for a given BP.*

If you are attaching a file through General Comments, you must also enter a text comment.

Attach files to document-type business process forms

Document-type business processes, such as transmittals or submittals, can be used for routing documents such as specifications or drawings for review. Comments and graphic markups can be added to individual files, and the document list is easily accessible from the BP form.

There are two subtypes of document-type BPs:

• **With Folder Structure:** Maintains the folder structure of the attached documents and folders. The folder structure is displayed in the left pane of the lower portion of the form.

• **Without Folder Structure:** The folder structure is ignored. Files within attached folders and subfolders are listed in a flat list.

In addition, document-type BPs can be designed such that files can be added to individual line items, which allows users to assign line-item status to individual documents. If the status of the line item (and therefore, the associated document) reaches a specified status (e.g., approved),

the BP can be set up so that the line item is no longer editable. Attachments and comments to that line item are no longer allowed.

To attach files to a document-type business process from your local system

From the document-type BP form, do one of the following:

- If the document type BP has line items, click the **Add** button and choose **Import Line Item w/ Attachments > My Computer**.
- If the BP does not use line items, click the **Add Attachment** button and choose **My Computer**.

The method for attaching files is dependent upon the file transfer option you chose in the user preferences.

To attach files to a document-type business process from the Document Manager

1   From the document-type BP form, do one of the following:
- If the document BP has line items, click the **Add** button and choose **Import Line Item w/ Attachments > Unifier Folder**.
- If the BP does not use line items, click the **Add Attachment** button and choose **Unifier Folder**.

2   The Select Files window opens. Select the documents or folders to attach and click **OK**. At the top left portion of the window, you can click **Current Phase** to view folders and documents associated with the current phase, or **All Phases** to view all folders and documents in the Document Manager, regardless of phase.

3   If you want to include the comments that may be attached to the documents, select the **Copy Comments** checkbox.

4   Click **OK**.

The files appear in the lower portion of the window. If the BP has line items and you select a folder or multiple documents, each document will be added in a separate line item.
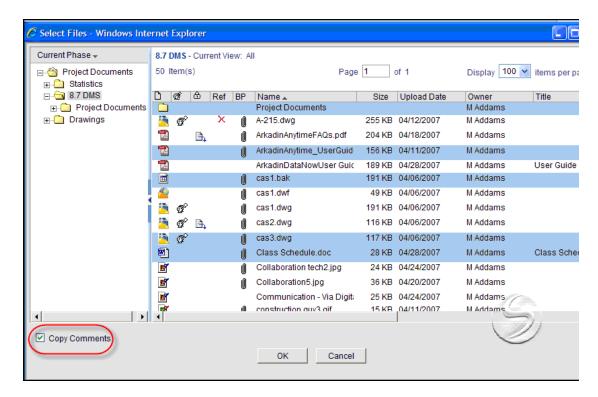
Figure 5-38 Select files and folders to attach to the BP

Note: *When attaching files from the Document Manager, some fields on the line item may auto-populate with data from the document or folder Properties window. Document-type BPs can be designed to auto-populate certain data elements on the detail form with data from matching data elements on the document attribute form.*

Remove attachments from a document type business process

To remove attachments from a document-type BP, you can remove the entire line item, or you can leave the line item intact and remove the attachment from it.

Note: *If the document-type BP has been designed to use line item status, and the specified status has already been reached (e.g., approved), the line item may no longer be editable.*

To remove attachments from a document-type business process (remove line item)

1   From the document-type BP form, select the line item to be removed.

2   Click the **Remove** button.

3   Click **Yes** to confirm. The line item and attachment are removed.

To remove attachments from a document-type business process (remove attachment from the line item)

1 From the document-type BP form, double-click the line item to be removed. The detail line item window opens.

2 Click the **Remove Attachment** button.

3 Click **Yes** to confirm. The attachment is removed from the line item.

> **Note:** *All fields that had been auto-populated when the file was originally attached (for example, name, issue date, revision number, etc.) will be cleared.*

Since Name is a required field, you must give the line item a new name before closing the line item detail window. If you close the line item detail window before entering a new name, the name of the file that has been removed will remain in the field.

Attach drawing and reference files to a business process

Drawing files attached to a document-type BP may be accompanied by multiple reference files, which may need to be resolved when attaching a drawing file. Follow the above procedure for attaching the drawing a file.

See Chapter 10, "Document Manager" for details about resolving missing reference files.

View, delete, or download attached files

The following describes how to view, delete, or download attached files.

To view attached files (non-document-type business processes)

1 Do one of the following:

- If the file is attached to the comments on a BP form, click the **General Comments** link. Open the comment with the attachment, and then click the **Attachments** link at the bottom of the Edit General Comment window.

- If the file is attached directly to the BP form, click the **Attachments** link at the bottom of the form.

The Attachments window opens.

2 Select a file and click **View**. The document will open in the viewer selected in your user preferences.

> **Note:** *If the file is a drawing file with references, you can select the file in the Attachments window and click* **View References***. The Reference Manager opens.*

To view attached files (document-type business processes with line items)
Double-click the document from the list at the bottom of the form. The Line Item window opens. Double-click the document to open.

To delete an attached file

Do one of the following:

- For non-document-type BPs, in the Attachments window, select the file to be deleted. Click the **Remove** button.
- For document-type line item BPs, select the document in the bottom of the form, and then click **Remove**.

To download a copy of an attached file

Do one of the following:

- For non-document-type BPs, in the Attachments window, select the file to be downloaded and click **Download**.
- For document-type line item BPs, select the document to be downloaded and click **Download**.

Add or view graphic markups to a business process attachment

You can add markups, such as circles or other graphical elements as well as text, to a document, which display directly on the document, but do not alter the document itself. Markups are layered on top of a file, as if the markups had been done on an acetate sheet that had been placed on top of the file. Each user who adds a markup is adding a new layer to the file.

To add a markup to an attachment on a business processes

1   Do one of the following:
- For non-document-type BPs, click the **Attachments** link. In the Attachments window, select the document and click the **Comments** button.
- For document type BPs, select the document in the lower portion of the document-type BP and click the **Comments** button. The File Comments window opens. If you have added any previous comments since the last time the BP was sent, they will be listed in the Draft Comments portion of the window.

2   Click the **Add** button. The Edit File Comment window opens.

3   Click the **Graphic Markup** button. The Cimmetry AutoVue Professional viewer window opens displaying the document content. The window opens initially in View mode.

4   In the viewer window, click the **New Markup** tool or select **File > New Markup**.

   If there are existing markups, the Markup Files window opens. Each saved markup session is listed in the window. Select the checkbox by the markups to view and click **OK**.

   The viewer switches to Markup mode, and the markup tools become available.

5   Add graphic markups to the drawing as necessary, using the tools on the horizontal toolbar.

   Note: *Each markup shape is a separate entity. The navigation pane on the left shows the Bookmarks tab and Markup Tree tab. The Markup Tree tab shows the markups. Click an entity to select it.*

6   Click the **Save** button or select **File > Save** to save your markups. Enter a name for the markup and click **OK**.

> *Note: Markups are saved as a single layer and are no longer editable once you close the window. Each markup is listed by name in the Markup Tree tab as a separate layer. To add another markup layer, click the **New** button.*

7   When you have completed your markups, close the viewer window to return to the Edit File Comment window.

> *Note: At this point, the comment is still in Draft mode. You can add additional markups or file attachments if desired. You must enter some text in the Text Comment box to save it.*

8   Click **OK** to save and exit the Edit File Comment window.

9   Close the File Comments window.

To view graphic markups

1   Open the comments window. Markups are associated with a specific comment.

2   Locate the comment with the markup, and click the **View** link next to Graphic Markup.

LINKING BUSINESS PROCESS RECORDS

You can provide a link to another completed BP form. Other participants will be able to click on the link and view the referenced form. Linked records are added and viewed from the Linked Records link at the bottom of the BP form. If records have been linked, the number of records will appear next to the Linked Records link.

> *Note: This option is available only in uDesigner BPs that have been set up to accommodate linked records. A user's ability to view a linked BP record is based on the user's permissions. If users cannot see the record in the log, they cannot see it in the link.*

Link a business process record

To link a business process record to another business process

1   At the bottom of the BP form, click the **Linked Records** link. The Links window opens.

2   Do one of the following:
- If you are linking a record from the same BP log, click the **Attach** button.
- If you want to link a BP record from another BP log, click the arrow next to the Attach button, and then choose the log from which to choose the BP record.

3   From the resulting list of BP records, select the records to link to the open BP form and click **Attach**.

4   Click **Close Window** to close the Links window.
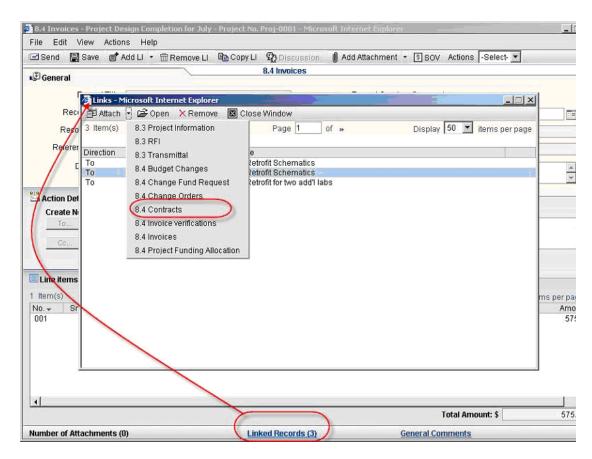
Figure 5-39 Linked records

Manage linked records

To view a linked record
From the Links window, select the record to view and click **Open**. A read-only version of the form will open.

To remove a linked record
From the Links window, select the record link to remove and click **Delete**.

LINKING UMAIL MESSAGES

You can link uMail messages directly to a BP record. On any action form in the workflow, users can click on the link and view the referenced uMail. Linked uMails are added and viewed from the Linked uMails link at the bottom of the BP form. If uMails have been linked, the number of messages will appear next to the Linked uMails link. A single uMail message may be linked to more than one BP record.

> If the form is a view-only form, you must accept the task before you can read any linked uMails.

> *Note:* *This option is available only in uDesigner BPs that have been set up to accommodate linked uMail messages.*

About permissions

The uMail messages that users have access to (whether linking a uMail message or viewing a message linked to the BP by someone else) will depend on their uMail permissions. By default, users can see linked uMails that reside in their personal Inbox and Sent boxes (either they have sent the uMail or were a recipient). A user who has permission to view public items can view uMails residing in the Public Items folder sent and received by others. For example, users with Project uMail view permission can see all uMails generated within a project. Users with Company uMail view permission can see all uMails generated by users in the company.

> *Note:* *There are special conditions for linking uMails in the Request for Bid functionality. See "Send and manage linked uMails from RFB forms" on page 194 for more information.*

Link an existing uMail message

You can link new or existing uMail messages to a BP record. A single uMail message can be linked to one or multiple BPs.

To link an existing uMail message to a BP

1   At the bottom of the BP form, click the **Linked uMail** link. The Linked uMail window opens.

2   Click the **Add** button. The My uMails window opens, displaying the list of available uMail messages.

3   From the resulting list of BP records, select the uMails to link to the open BP form and click **Attach**.

4   Click **Close Window** to close the Linked uMails window.
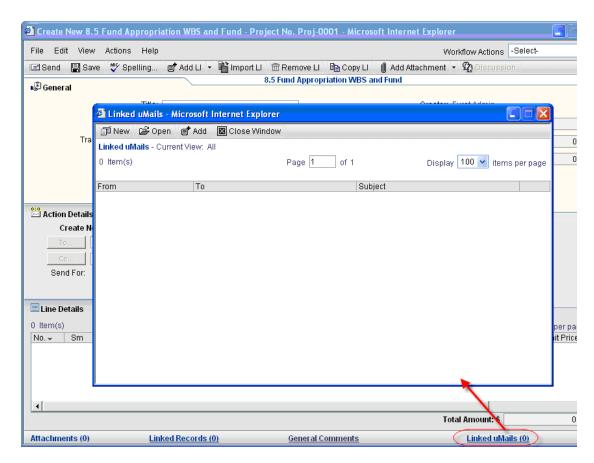
Figure 5-40 Linked uMails

Create and link a new uMail message

You can create and send a uMail message from the BP record. You must send the uMail before sending the BP to automatically link it to the BP record. The uMail message will be stored in your current project or shell uMail Sent folder, in the Public Items folder, and the Inbox of recipients. In addition, if you reply to or forward the message, the reply and forwarded copies will also automatically be linked to the BP record.

Note: *If you create a new uMail message and save it without sending, it will remain in your uMail Draft log in the current project or shell. You can later access this draft uMail and send it, but it will not be automatically linked to the BP record from which you originally created it. To link it, send the message first, and then attach it as you normally would an existing uMail message.*

If a recipient replies to or forwards the linked uMail message, the reply or forwarded message will also be automatically linked to the BP.

To create and link a new uMail message to a business process

1   At the bottom of the BP form, click the **Linked uMail** link. The Linked uMail window opens.

2   Click **New**. A uMail message window opens.

3 Complete the uMail message window as normal, and click **Send** to send the message.

Once the BP record is sent, the uMail message and any subsequent replies to that message by other users will be automatically attached to the BP record.
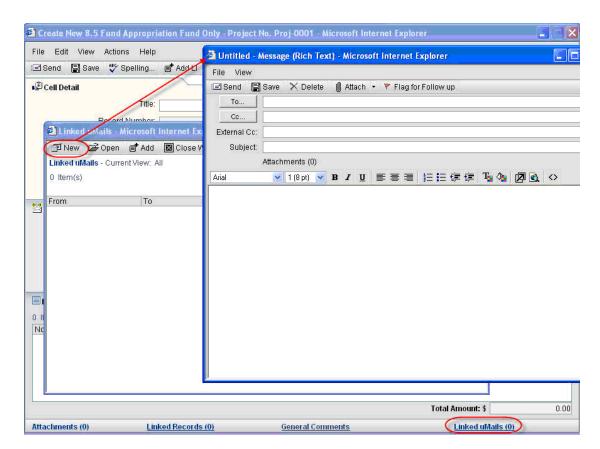
Figure 5-41 Link a new uMail to a BP form

Manage linked uMails

You can view or remove linked uMail messages.

To view linked uMail messages

From the Linked uMails window, select the message to view and click **Open**. The Message window opens.

To remove a linked uMail message

From the Linked uMails window, select the uMail message and click **Open**. The Message window opens. Click **Delete**.

Reply to or forward a linked uMail message

If you receive a uMail message with a link in the upper portion of the window, that uMail message is linked to one or more BP records. If you click **Reply**, **Reply All**, or **Forward** and then send your response, the reply or forwarded message will also automatically be linked to the BP record.

View the list of linked BPs from a uMail message

If a uMail message has been linked to one or more BP records, a Show List link appears on the uMail message window.

To view linked BP records from a uMail message

1   Open a uMail message. If the message has been linked to one or more BP records, a Show List link will display on the upper portion of the message window.

2   Click **Show List**. The Linked Records window opens.

3   To view a BP record, select it from the list and click **Open**.

Send and manage linked uMails from RFB forms

Request For Bid (RFB) business processes have special linked uMail functionality. For RFB business processes, the creator of the RFB form will be allowed to correspond with internal users or with RFB bidders.

To send a uMail message from an RFB form

1   Open the RFB BP form and click the **Linked uMails** link in the lower-right corner of the form. The Linked uMails window opens.

2   Click **New** and select one of the following:
 - **To Internal:** The Message window opens. The selection list for To, Cc, and Bcc includes your Unifier project or shell team, as in other uMail messages.
 - **To Bidder:** The Message window opens. The selection list for To, Cc, and Bcc is generated from the list of invited bidders (selected from the Master Vendor BP and invited to submit a bid during the creation of the RFB record).

   Note: *You will not be able to save a draft copy of the uMail from this selection.*

Bidders will be allowed to view and access uMails once they are logged into Unifier using a special login.

Bidders can also create and add uMail messages from the RFB form. The To field is auto-populated with the requestor name. The Cc and Bcc buttons are not available; however, bidders can fill in external Cc and Bcc fields with external e-mail addresses. When bidders reply or forward uMail messages, these will be linked with the record.

Bidders will not be able to create any new uMails after the bid due date.

Transfer ownership

If you are a BP record owner or creator, you can transfer ownership at any time in the workflow process, other than the creation step, or after its termination step. The new owner will have all privileges of a BP owner, and the originator name on the BP form and the log will show the new owner.

To transfer ownership

Open a BP record. From the **Edit** menu, click **Transfer Ownership**. Choose the user from the User/Group picker and click **OK**. The selected user becomes the BP's new owner.

Spell check

The spell check feature is available for all BP forms, including cost, document, text, simple, and line item. You can spell-check information that you have entered in text fields and any other text areas.

The spell check feature is available within Unifier, not uDesigner, and is only available for BPs created in uDesigner.

To spell check a business process form

1   Open a BP form at the project or shell or company level.

2   Click the **Spell Checker** button on the toolbar of the BP form. All form fields will be checked.

3   Make spelling corrections as necessary and click **OK**.

The Spell Checker icon is also available if you click the **Comments** button of a BP form.

Grant business process record permissions

You must have permissions for specific BP logs to create or view records. Contact your project or shell administrator if you are having trouble accessing BPs or BP logs to which you need access.

For all BPs, except those in the project or shell Logs node, permission must be granted on an individual record basis by the record creator. If you have create permission and create a new record, you must grant view or edit permission to other users so that they can have access to it. This is applicable on the following BP logs:

- Company > Data Manager
- Company > General
- project or shell > project or shell Information > General

If users have view or higher permissions on one of the project or shell logs, they do not need additional permissions for individual records. They will have the same access to all records created under that log.

Note: *Sometimes non-workflow business processes in project or shell logs require individual permission settings.*

To grant permission to a business process record

1   Create a BP record in the Company Data Manager, Company General, or project or shell General log.

2   From the log window, select the record (for Company Data Manager records, select an individual BP log node) and click **Permission**.

3   Add the users or groups you wish to grant permission, set the permission level, and click **OK**.
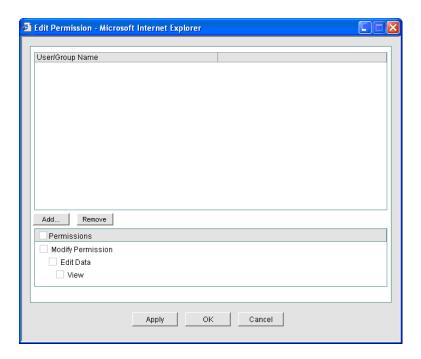
Figure 5-42 Grant BP permissions

BUSINESS PROCESS AUDIT LOG

The Audit log lists the actions that have been taken on a specific BP record. The Audit log captures the following events. These apply to workflow and non-workflow BPs, unless otherwise noted.

- Workflow steps: when and to whom (To and Cc) each step was sent (workflow BPs)
- Record creation date (non-workflow BPs)
- General comments
- File comments
- Linked uMails
- Linked records
- Discussion group: start and end
- Add or manage document-type BP folders: new, remove, rename, move
- Add or remove file attachments
- Decline task
- Transfer ownership
- Add, modify, or delete a line item: detail or summary
- File attachments to existing line items
- Copied (cc) user views the record
- Updates performed on any part of the BP using the Reverse Auto-Population feature

The BP Audit log does not support the following:

- Actions undertaken at the creation step
- File attachments to new line items (to audit the attachment, first add and save the line item, and then open it to add the attachment)
- Accept task
- Undo accept task
- Add assignees or copy users between steps

View and print the business process Audit log

To view a business process Audit log
From the **View** menu of the BP record, click **Audit Log**. The Audit Log window opens, listing each event associated with the BP workflow.

To view business process audit details

1   From the **View** menu of the BP record, click **Audit Log**. The Audit Log window opens.

2   Double-click a listed event to view the audit record detail, which details the action taken and includes the time stamp of the event.

To print a business process Audit log

1   From the **View** menu of the BP record, click **Audit Log**. The Audit Log window opens.

2   Click the **Print** button. A PDF file is created.

3   Do one of the following:
- Click **Open** to open the file in Adobe Acrobat Reader. From the Reader window, you can view, save, or print the file. The PDF file includes the time stamp for each event.
- Click **Save**. In the Save As window, navigate to the location in which you want to save the PDF file. Open the file in Adobe Acrobat Reader and choose **File > Print** to print.
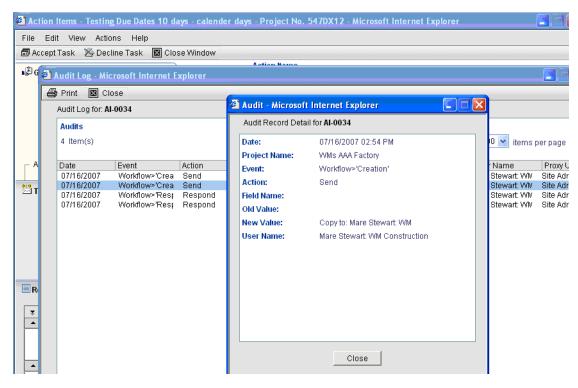
Figure 5-43 Audit Log and Audit Record Detail

View referencing records

You can view a list of the records that reference a particular business process. Users with View permissions can view all referencing records for a particular business process.

Business process records can be linked to or reference other records using:

• A BP picker on a business process record

• Auto-creating a record through the workflow (S-Step)

• Auto-creating a record through meeting specific criteria set up by your administrator

For example, a Purchase Order record can be referenced from one or more change orders and one or more invoices or other business processes.

From the list of referenced BPs you can open any of the referencing BPs to view details. You view reference BPs based on your permissions.

Examples of reference records you might view in the list of BPs:

• Listing of change orders for a commit (purchase order) business process. This can allow you to view and drill-down to all the Change Orders against the Purchase Order.

• Listing of Invoices for a commit business process. This can allow you to view and reconcile all the Invoices against the Purchase Order.

• Listing of Lease Payment Requests and for a Master Lease, to help a lease administrator view and reconcile all payment records for a lease.

• Listing of Work Order BPs for preventive maintenance BP. This can allow you to drill-down to each work order auto-created from the preventive maintenance BP.

Note: *Referencing records for a BP are listed in the log, however, your access to each listed BP is dependent on your user permissions.*

The list will not display single-record business processes.

To view a list of referencing records

1 Open a business process form.

2 Choose **View > Referencing Records**. The Referencing Records window opens.

The window displays the records that list the current record, filtered by business process type. The list is also filtered by the data element, such as a BP picker, that is used to reference the record, in case there is more than one referencing data element on the form.

The records are displayed across project and shells.

3 Click the Record Type pulldown in the upper right corner of the window. The pulldown shows all business process types and data elements that are available to reference the record (as designed in uDesigner).

4 Select the business process/data element to view.

For example, you open a base commit (purchase order). A Change Order BP and an Invoice BP have been configured in uDesigner to work with the purchase order: a BP picker with the label "Reference" was added to the change order and invoice, and configured to work with the purchase order business process type. Click **View > Referencing Records**; click the Record Type pulldown to list all of the Change Order/Reference, then all the Invoice/Reference records.

5 You can double-click a record listed in the lower part of the window to open the record in view mode.

6 Click **OK** to close the window.

PARTICIPATING IN A WORKFLOW

There are two types of tasks that will appear in your Tasks logs:

• You are part of a business process workflow step and must take some type of action on the business process.
• You have been requested to join a discussion group by another user who wants input before completing a task.

The following sections discuss how to complete a business process task, decline a task, initiate and participate in discussion groups, and consolidate and hide discussion group comments.

ASSIGNEES AND DUE DATES (ACTION DETAILS)

Depending upon the workflow configuration and your user permissions, you may be able to select one or more users or groups to whom the BP form will be sent as the next step in the workflow. The assignee fields are:

• **To:** The users or groups that you choose will be assigned the next task in the workflow. Team members listed will receive an e-mail notification of the task. This can include users designated as Editors on the task, as well as proxy users.
• **Cc:** These users and groups receive an e-mail notification and a copy of the BP record in their Message log. They can review the record, but cannot take action on the workflow.
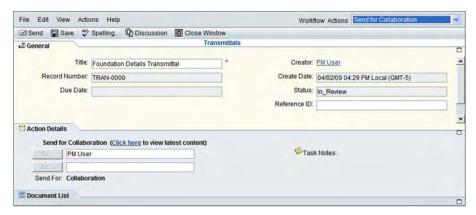
Figure 5-44 Action Details section of a BP

Depending on the workflow setup, you may also be able to set the due date for the next step.

Assign users to the next step

To assign team members to the next workflow step (assign task)

1   In the Assignee portion of the BP form, click the **To** button. The User/Group picker opens.

2   Select one or more users or groups from the list (groups are shown in bold font), and click **Add**.

You can filter the list by clicking the **Show By** menu at the top of the User/Group picker and selecting one of the following:

- **Users/Groups:** Lists all available users and groups. Groups appear in bold letters.
- **Users:** Lists only the available users.
- **Groups:** Lists only the available groups. The picker will also display the name of the group manager (user with group administration privileges) for each group.

3   Click the **OK** button. The selected users or groups appear in the To field on the form.

When the business process form is sent, each member will receive an e-mail message regarding their task assignment and a copy of the BP form in their Tasks log.

To send a copy of the business process form

1   Click the **Cc** button. The User/Group picker opens.

2   Follow the assign team members procedure to select users or groups.

3   Click the **OK** button. The selected users or groups appear in the Cc field on the form.

When the business process form is sent, each member will receive an e-mail message and a copy of the BP form in their Messages log.

Note: *The BP form may be set up to have preassigned Cc users. In this case, if the Cc button is enabled, you can add additional Cc users. If not, the BP is not set up to allow additional Cc users. You cannot remove preassigned Cc users.*

To view a user profile
Select a user from the User/Group picker and click the **View Profile** button.

Modify step due date

If the step duration and workflow override are enabled on the BP, you can also set the task due date for the next step.

To change the task due date

1   Click the **Calendar** icon next to the To field. The Task Due Dates window opens.

2   Choose one of the following options:

- **Set all task due dates as:** Lets you set the same due date for all assignees.
- **Set individual task due dates:** Allows you to assign different due dates for each assignee one at a time.

3   Click the **Calendar** icon corresponding to the option you chose. For the second option, click the **Calendar** icon next to each user's name on the list. The Date picker opens.

4   Select the month and year, and then click the date you want to select.

> **Note:** *The workflow engine uses the company workday calendar. Grayed-out dates are those that have been set as non-working days (for example, weekends and holidays) by your company administrator. You cannot select non-working days for a task due date.*
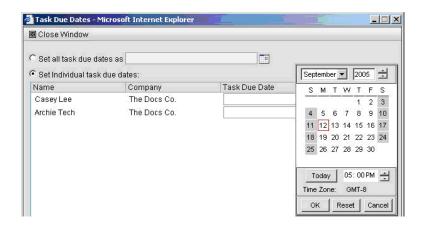
Figure 5-45 Task Due Dates window

Add additional assignees or send an additional copy

If you are a task assignee or BP owner, you can add additional assignees to a task or copy additional users after the BP record has already been sent and before the next step has been accepted (that is, while the BP is still in view form). This is useful if you want to send a copy of the record or add another assignee before you take action on it.

You can add additional assignees or copy users if:

• You have not yet accepted the task, and the form is still in view form. If you have already accepted the task, you can reverse the action by clicking the **Actions** menu and selecting **Undo Accept Task**.

• The BP workflow has been set up to allow adding assignees or allowing to cc.

To add an additional assignee to a task

1   From your Tasks log or BP log, select a record and click **Open**. The BP form opens for viewing.

2   Click the **Edit** menu and choose **Add Assignees to Current Step**. The User/Group picker window opens. The list displays the list of users or groups that can be assigned, according to the BP setup.

3   Select the users or groups from the picker window and click **OK**.

The user or group will be added to the list of assignees. The record will appear in each new user's Tasks log and applicable BP log, and users will receive an e-mail informing them of the task, depending on their e-mail subscription preferences.

To send a copy of a business process to additional users

1   From your Tasks log or BP log, select a record and click **Open**. The BP form opens for
        viewing.

2   Click the **Edit** menu and choose **Copy Users to Current Step**. The User/Group picker
        window opens. The list displays the list of users or groups that can be copied according to
        the BP setup.

3   Select the users or groups from the picker window and click **OK**.

The user or group will be copied. This means that the record will appear in each new user's
Messages log and applicable BP log, and the users will receive an e-mail informing them of the
copy, depending on their e-mail subscription preferences.

Add or view a task note

Notes that are specific to a task can be added to a BP form. They are temporary notes that can be
used as comments or specific instructions to the next user in the workflow. Task notes are not
forwarded throughout the workflow and are not archived. You can think of them as sticky notes
that stay with the form for one step in the workflow only.

A task note only applies to the current task. If you are part of the current task and a task note is
present, be sure to take notice. The task note will not be included in the rest of the workflow. If a
task note is present, a "(1)" will display by the Task Notes field in the Action Details section of
the BP.

Figure 5-46 Task note

To add a task note to a business process
In the Action Details portion of the BP, click the **Task Notes** icon. The Add Notes window opens.
Enter the text for the task note and click **OK**.

To view a task note
If a task note is present, click the **(1)** next to the Task Notes icon in the Action Details portion of
the BP. The Notes window opens displaying the note and the user who created it.

When you click the **Accept Task** button, the BP form becomes editable and the Task Notes field
will clear. If you want to review a task note but have already accepted the task, you can click the
View menu and choose **Received** or click the link **Click here to view latest content** in the
Action Details section. Another window opens displaying the record as you received it, with the
task note intact.

RESPONDING TO TASKS

Business process e-mail notifications

You may be notified by e-mail when you have a new task, if you are late responding to an assigned task, if you have been requested to join a BP discussion group, you are an editor on the task (in which case, you receive notification each time a draft is created), or if you were the creator of the BP and someone has taken action on their task.

Depending on your company's Unifier e-mail notification setup and your own user preferences, you may receive such e-mails one at a time as the task is generated, or you may receive one daily e-mail digest summarizing all of the day's e-mail notifications (including non-BP related notifications).

Note: *E-mail notifications can be configured in your user preferences. See Chapter 2, "Getting Started".*

If you receive an e-mail notification
You may receive BP-related e-mail notifications for the following:

- You have a new task. A task can be generated if you need to take action on a BP workflow step, or if you have been requested to be part of a BP discussion group. Click on the hyperlink at the bottom of the e-mail. You will be directed to the Unifier Login screen. Once you log in, go to the Tasks log for the corresponding project or shell.
- You are late responding to an assigned task. The actions you can take are similar to when you have a new task.
- You are the owner or creator of the BP and someone has taken action on their task. This is a notification only and no action is required.
- You are an Editor on a task (you receive notification each time a draft is created).
- You are designated as an active proxy user, and the user you are acting for has received a task.
- A BP workflow has been completed. This is a notification only and no action is required.
- You have to take action during a BP workflow.

Business Process e-mail notifications with workflow actions

You may receive BP-related e-mail notifications that contains hyperlinks that represent actions in a BP workflow.

Actions you can take via e-mail are shown as hyperlinks and represent actions you can take in a workflow step. When you click the hyperlink, an e-mail reply is generated. Your reply text becomes a general comment in the BP record. Assignees need to be preassigned on the workflow steps for the e-mail workflow action to occur. Attachments are ignored in the workflow action replies. E-mail clients supported for workflow actions via e-mail include HTML and text. If you are using a text client for your e-mail, the possible actions are listed, but are static text (not hyperlinks). In that case, you can reply to the e-mail manually and provide the appropriate To, Subject, and body text. Your subject should be the name of the action you want to take as shown in the e-mail notification.

Attachments are ignored in the workflow action replies. E-mail clients supported for workflow actions via e-mail include HTML and text. If you are using a text client for your e-mail, the possible actions are listed, but are static text (not hyperlinks). In that case, you can reply to the e-mail manually and provide the appropriate To, Subject, and body text.

Your subject should be the name of the action you want to take as shown in the e-mail notification.

Tasks that are assigned to you are listed in your Tasks logs. The Tasks logs display business process-related tasks in which you are being requested to participate. The following tasks may appear in your Tasks logs:

- You are part of a business process workflow and are requested or required to take some sort of action.
- You have been invited to join a discussion group by another user who is requesting assistance with drafting comments or markups on a BP. These are indicated as being sent for "Discussion" in the Tasks log.
- You are designated as the Initiation step assignee for an auto-created business process.

Validation for e-mail task flow actions are as follows:

- Email address must match that of the assignee
- Valid Notification ID/Password (NID)
- Active (Unifier) User
- BP record has not moved or been terminated
- Record has not already met completion policy
- Assignees must be Preassigned at the destination step

Accept and complete a business process workflow task

After a workflow BP has been created and sent, Unifier adds the record to the log with a status of pending, which refers to the status of the next step. Unifier creates a task for each of the assignees in the next step in the workflow, and a message for each of user that has been cc'd.

If you are designated as an assignee of a task, you will receive an e-mail notification, and the task will appear in your Tasks log.

To complete a business process workflow task

1   From your Tasks log or the BP log, select a record and click **Open**. The BP form opens for viewing.

On the "view" version of this form, you can do the following:

- Accept the task
- Decline the task
- Print the form
- Terminate the record
- Send uMail

- Transfer ownership of the record
- Add an assignee to the current step
- Copy users to the current step
- Audit the progress of the record

2   Click the **Accept Task** button. The form becomes editable. In some cases, you may have the option to decline the task. See "Decline a task" on page 208.

On the editable, or "action," version of this form, you can do the following:

- Undo the task acceptance (decline the task
- Select the step's next action
- Add or edit form content
- Save a draft of the record
- Terminate the record

- Transfer ownership of the record
- Display the view form of the BP
- Audit the progress of the record
- Spell check the record content
- Add attachments, line items, etc.
- Send the form to the next step

Note: *If the project or shell associated with a business process becomes View-Only, in-process records are placed on the View form of the current step of the workflow. After the project or shell is again Active, the business processes revert to the Action form.*

3 Review the form carefully. If you have the proper permissions, you can perform the following additional functions, as long as the BP is set up for them or is of the proper type to accommodate them:

- Make changes or additions in editable fields of the BP.
- Add, edit, or remove line items or summary line items.
- Add or view file attachments (see "Working with File Attachments and Markups" on page 183).
- View or add general comments (see "Adding and Managing General Comments" on page 179).
- Add or review graphic markups to an attached document (see "Add or view graphic markups to a business process attachment" on page 188).
- Provide a link to another completed BP form. Other participants will be able to click on the link and view the referenced BP form (see "Linking Business Process Records" on page 189).
- Initiate or participate in a BP discussion group (see "Working with Discussion Groups" on page 213).
- Consolidate discussion group comments.

4 In the Action Details area of the BP form, designate the next assignees (users and groups) who will receive the next step in the workflow as a task. You may also be able to designate the task due date for the next assignees. (See "Modify step due date" on page 201.)

Note: *You can choose the next users to send the BP to if the BP has been set up this way. Some BPs have a fixed workflow. If this is the last step in the workflow, this is not applicable.*

5 You may also add task notes for the next participants in the workflow. Task notes apply to the next workflow step only and are not stored with the permanent record.

6 When you have completed any necessary edits or additions, select an action or workflow action from the drop-down list. The action you take depends on the task assigned. For example, if this is a review step, an action that you may be able to take is "approve."

7 Click the **Send** button:

- If the business process workflow is not yet complete, the business process will be forwarded to the next team members in the workflow.

- If the workflow is complete (that is, your input was the last step of the workflow), the BP record will appear as complete in the BP log.

  Tip: At any time, you may save your work as a draft. This is recommended if you are going to leave your desk or have a lot of work to do on it. There is no autosave.

Notes on actions:

- **Undo Action:** If you change your mind after making a selection, click the **Undo Action** button, and then choose another action.
- Actions include things like reject, approve, etc.
- Actions such as acknowledge simply advance the workflow and do not require a To or Cc.

  Tip: After you have accepted the task or initiated an action, you can still review what you received prior to doing so without having to undo. Click **View > Received** or the **Click here to view latest content**. Unifier displays another pop-up window of the original record as you received it.

Undo accept task

If you change your mind after accepting a task, you can use the Undo Accept Task option.

With some exceptions, Undo Accept Task will restore the BP form and data back to the state it was in just prior to accepting the task, even if you have made some modifications to it. This applies only to additions or changes made between accepting the task and selecting Undo Accept Task. Undo Accept Task is not available for Initiation Steps.

Undo Accept Task will roll back the following to their previous state:

- Changes to upper form fields
- Auto-populated fields
- Changes to the action details (To and Cc fields)

Any new additions of the following are removed:

- Summary, detail, or imported line items
- Task notes
- Comments
- File attachments
- Linked records

These changes are not rolled back:

- Changes made to existing line items.
- Anything that is deleted, such as attachments, linked records, linked uMails, and line items, cannot be restored. The exception is upper form fields, which will be restored to their previous state.
- Transfer ownership.
- uMail messages sent through linked uMails.
- Discussion group activity.

To unaccept a task

1   After accepting a task, select **Actions > Undo Accept Task** from the BP record. A confirmation window will open.

2   Click **OK**. The BP record data will revert back to its state prior to accepting the task. Any changes or additions you have made, with the exception of those items discussed above, will be lost.

Decline a task

Sometimes you have the option of declining a task. If you are the only person assigned to a step in the workflow or if the creator of the workflow has not granted permission to decline a task, this is not an option.

To decline a task

1   From your Tasks log, select the BP record and click **Open**. The business process form opens.

2   Click the **Decline the Task** button.

If you have permission to decline the task, the task will be removed from your Tasks log and the record returned to the sender.

If you do not have permission or are the only person assigned the task, an alert message will display, informing you that you cannot decline the task.

TAKING ACTION ON MULTIPLE TASKS AT THE SAME TIME (BULK ACTION)

Update business process workflow actions using bulk processing

If you have a large number of projects or shells with numerous BPs in the same state, you can use bulk workflow actions to update the workflow on all of the BPs at once. You can update the workflow actions from any of the Tasks logs or a Find log. You can update a maximum of 200 records using bulk workflow update.

Note: *Some business processes do not support integration and bulk action is not available for these business processes.*

You must have Allow Bulk Edit permission set for each area where the bulk action is to be performed (Company or project/shell).

Note: *Only the upper form is modified during bulk workflow actions.*

To take action on multiple records

1   Navigate to a Tasks log.

2   Select one or more tasks to work with, or perform a Find for tasks of certain criteria and then select tasks that are in the same workflow stage. You can select tasks from the Tasks log or the Find log.

      Use the Type (combination of the BP name and workflow name) and Sent For search criteria to help narrow your search for similar task records. Be sure that the group of tasks that you select:

      • Are of the same type

      • Have the same workflow schema

      • Are waiting on the same workflow step

      Bulk workflow processing will be successful only if these criteria match for all selected tasks.

3   Choose **Edit > Bulk Action**. The Bulk Action window opens. The fields displayed in this window depend on what step of the workflow the tasks are in.

      Note: Bulk workflow actions are not supported on tasks that are in the Initiation step.

      The Bulk Action form includes all editable fields for the task. The Workflow Actions menu shows the actions available for the next step in the workflow for the tasks that you are updating.

4   Modify the Bulk Action form as needed.

5   Select the **Update** checkbox for the fields that you want to update. The checkbox is automatically selected when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.

6   Select a workflow action and click **Send**. The BP workflow tasks that you have updated are sent to the next step in the workflow.

7   The Bulk Actions Status window displays after you click Send. This window allows you to monitor the progress of the bulk workflow update. Click **OK** after all records have processed. Click **Cancel** if you want to cancel the bulk update in progress.

EDITING RECORDS

Edit a business process record

When a workflow BP is in process, depending upon your permission settings, you can add or edit information on the form. Non-workflow BPs can be edited as needed.

To edit a business process form

      • If you want to edit a non-workflow BP that is already complete, click the **Edit** button to enable editing to the BP.

      • Business processes with a workflow can be edited only during the workflow process. Once the termination step has been reached, further editing is not possible.

Edit multiple records in bulk

If you have a large number of projects or shells with numerous BPs that need similar edits, you can use bulk BP editing to update all the BPs at once. You can use bulk BP editing to modify workflow and non-workflow multirecord BPs at the company, project, or shell level. You can update a maximum of 200 records using bulk BP editing.

Bulk BP editing must be defined in uDesigner, and you must have the Allow Bulk Edit permission set on the BP to use bulk BP editing. You can select records from the BP log or the Find log.

Note: *Only the upper form is modified during bulk BP editing.*

Bulk edit is not available for resource booking and timesheet business processes, or single-record business processes.

To update business processes using bulk editing

1   Navigate to a business process log.

2   Select one or more business processes, or perform a Find for BPs to search for a group of BPs to work with.

3   Choose **Edit > Bulk Edit**. The Bulk Edit window opens. The fields displayed in this window depend on what was specified for the upper form in uDesigner. The Bulk Edit form includes all editable fields for the BP as defined in Integration.

4   Modify the Bulk Edit form as needed.

5   Select the **Update** checkbox for the fields that you want to update. The checkbox is automatically selected when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.

   Note: *If the Update checkbox is selected for an empty field, the field will be updated with a blank value.*

6   Click **Update**. This launches the bulk update of the selected BP records.

7   The Bulk Actions Status window displays after you click Update. This window allows you to monitor the progress of the bulk BP update. Click **OK** after all records have processed. Click **Cancel** if you want to cancel the bulk update in progress.

Tracking a Step Through the Workflow

There are times when you might need to examine a record's workflow in detail to see the progression of a step or task through each assignee's actions. You can track a step in this way using a single window, which is available from the business process form.

To track the progress of a workflow step

1   From the log node in the Navigator, select the business process.

2   On the right pane, double-click the record you want to track. Unifier displays the BP record window.

- If the record is open or pending, click the **Task Status** link in the **Task Details** section of the form.

- If the record is closed, click the link to view the process details in the **Task Details** section of the form.

Unifier displays the BP Progress window, showing the step the record is currently on.
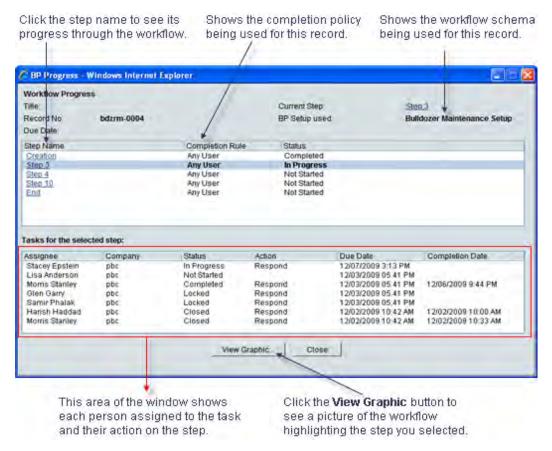
Figure 5-47 Example of progress tracking for a workflow

You can use this window to display every step in the workflow schema, the action of the step, the assignees (and those cc'd) on the task, and the status of the task at each assignee's action.

3   Click the name of the step you want to audit.

Unifier displays the history of each assignee's action on that step and the step's status at that time. The actions are shown in reverse chronological order by Due Date (i.e., the latest due date is at the top of the list).

About Completion Policies, Resolving Actions, and Their Statuses

Your administrator sets a "completion policy" on each step in a workflow. This policy determines when the step is complete and where the step proceeds from there. A step can be complete under the following conditions:

- Any single user can accept a task and complete it, and the record will move forward to the next step. This is called a **single** completion policy.

- All assignees to the task have responded to it and a majority has agreed on the action that moves the record forward to the next step. This is called an **all-majority** completion policy. If there is no clear majority on the action, Unifier will use a *resolving action* to determine how the record moves forward.

- All assignees to the task have responded to it and all assignees have agreed on the action that moves the record forward to the next step. This is called an **all-consensus** policy. If there is no consensus on the action, Unifier will use a *resolving action* to determine how the record moves forward.

A **resolving action** moves the step to either a following step, a previous step, or a conditional step that essentially "re-addresses" the task. This step must be completed before the workflow can continue. The assignees on this resolving action step can include the original task assignees and can also include new assignees.

Statuses

The statuses you see on this window are internal to Unifier and are used only to display the status of the workflow step **relative to the completion policy**. These statuses are:

Not Started   The assignee has not accepted the task.

In Progress   The assignee has accepted the task.

Locked   This status is used when the step has a single completion policy and one of the assignees accepted the task. This status denotes those assignees who were also assigned to the task, but because of the single completion policy, the task was locked and these assignees no longer have access to it.

View Only   This status indicates that this user was cc'd on the task, but is not expected to take action on the task.

Completed   This status is given to an assignee's action if the task was finished and needed no resolving action.
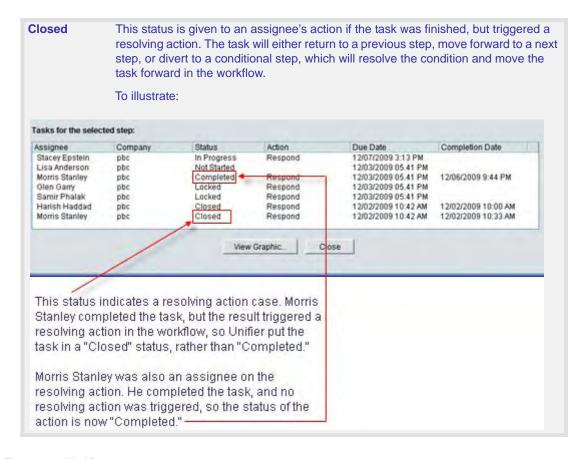
Figure 5-48 Workflow status

WORKING WITH DISCUSSION GROUPS

Any user who is part of a business process workflow can initiate a discussion group to solicit input from other project or shell team members. Eligible participants are pulled from the BPs add assignee list. Invited members of the discussion group can contribute their own text comments and graphic markups.

Note: You cannot participate in a discussion group on the Create or End steps of a business process.

The task owner can select which, if any, of the comments and markups to use in creating final comments or markups for the task. The task owner can hide or delete these comments or consolidate them for use in creating the final comment or markup.

To consolidate comments received in a discussion group into a single, cohesive comment, see "Copying and Consolidating Comments and Markups" on page 215.

A discussion group can take place in one of two places:

• The General Comments section of any uDesigner cost, line item, or document BPs.

• On individual documents that are part of a uDesigner document-type BP document list.

Discussion groups end at the discretion of the task owner or when the task is completed.

Initiate a discussion group

You can initiate a discussion group during any step in the workflow except the creation step.
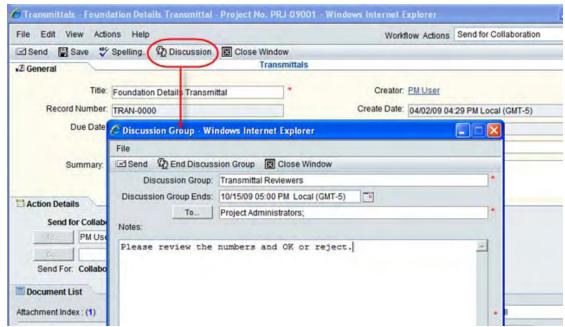
Figure 5-49 Initiate a discussion group

To initiate a discussion group in general comments

1 Open a BP form and click the **Discussion** button. The Discussion Group Invitation window opens.

2 Give a name to the discussion group.

3 Click **To** and choose the users to include in the discussion group. This list is generated from the discussion group list on the workflow setup of the BP.

> **Note:** *To include users who are not part of the original BP workflow, you must first add them to the discussion group list. The workflow must be set up to allow this, and you must have the proper permissions. Refer to the Business Process Setup section in the Unifier Administration Guide.*

4 In the Discussion Notes text field, write a description of the assistance or input you are asking for from the participating members of the discussion group.

5 Click **Send**.

The receivers get a task in their Tasks log and an e-mail message. The subject of the e-mail will show the record number of the BP and the phrase "is sent to you for discussion." When the receiver opens the form, only the comments section is editable.

When users respond to a discussion group, the discussion group owner is notified by e-mail.

To initiate a discussion group on a particular document in a document-type BP
Open the document-type BP form. Select the document from the document list on the form. Click the **Discussion** button and follow the procedure to initiate a discussion group.

Close a discussion group

When a discussion group is closed, all invited participants will receive an e-mail notification.

To close a discussion group

- The initiator can close the discussion group at any time by clicking **Close**. This will remove the task from each receiver's task log, regardless of whether they have completed it.
- Discussion groups are closed automatically when the task in which the discussion group had been initiated is completed, regardless of the status of the discussion group comments.

Participate in a discussion group

If you are invited to join a discussion group, a new task will appear in your Tasks log, and you will receive an e-mail message. The Sent for column of the Tasks log will indicate "discussion," distinguishing it from BP workflow-related tasks.

To participate in a discussion group in comments

1   From the Tasks log, select the discussion group BP and click **Open**. The BP form will be view-only, except for the comments area.

   Note: *Pay particular attention to the Discussion Notes area of the Action Details portion of the form. This is where the owner of the discussion group will add information regarding what input is needed.*

2   Click **General Comments**. Add text comments.

To participate in a discussion group on a document-type BP

1   From the Tasks log, select the discussion group BP and click **Open**. The BP form will be view-only, except for the comments and document list.

   Note: *Pay particular attention to the Discussion Notes area of the Action Details portion of the form. This is where the owner of the discussion group will add information regarding what input is needed and the documents that need review.*

2   Select the document to comment on and click **Comments**. Add text comments and graphic markups.

COPYING AND CONSOLIDATING COMMENTS AND MARKUPS

These procedures are useful for consolidating comments and markups received during a discussion group, but can also be used anytime you want to copy or consolidate comments or markups on a BP attachment.

When you copy and consolidate comments, all attachments to comments will display as attachments to the consolidated comment. All graphical markups will also be copied and included in the new consolidated comment in a separate, editable markup layer.

You can also consolidate graphic markups made to documents that are attached directly to the BP form (that is, documents attached in the lower portion of a document-type BP, or documents attached directly to the BP form).

You can copy and consolidate text comments in general comments, but not graphic markups to file attachments added to a general comment. The following table summarizes:

BP Feature	Consolidate Text Comments	Consolidate Graphic Markups
Documents attached to document-type BPs	Can copy and consolidate comments made directly to attached documents	Can copy and consolidate graphic markups on attached documents
File attachments: all BP types	Can copy and consolidate comments made to files attached directly to BPs (listed in the Attachments link)	Can copy and consolidate markups made to files attached directly to BPs (listed in the Attachments link)
General comments	Can copy and consolidate general comments	Cannot copy or consolidate markups on files attached to a general comment.

Copy or consolidate text comments

You can copy one or more existing comments to use in formulating your own comment. Copied comments also include any attached files and graphic markups.

When used in conjunction with the discussion group function, this can be used to consolidate the comments you receive from the group and create a single, cohesive comment. Because discussion group comments remain draft until the BP is sent to the next workflow step, the task owner can choose to delete or include the other draft comments.

You can also copy and consolidate comments made to documents attached directly to a BP. This allows you to consolidate several comments made by multiple users into a single comment by copying the existing comments into a new one and editing as necessary.

To copy general comments

1 On the BP form, click the **General Comments** link. The General Comments window opens.

2 Click **Add** (or **Modify** to modify an existing comment). The Edit General Comment window opens.

3 Click the **Copy From** button. The Copy General Comments window opens, displaying the list of existing comments.

4 Click the selection box next to each of the comments you want to copy into your comments and click **OK**. Any additional file attachments or markups associated with each comment are also copied to the new comment.

5 Make edits as necessary and click **OK**.

To copy and consolidate text comments on a BP attachment

1   Do one of the following:

- Click the **Attachments** link at the bottom of the BP form. The Attachments window opens. Select the file and click the **Comments** button.
- For document-type BPs, in the document list in the lower portion of the document-type BP, select the file to mark up and click the **Comments** button.

    The File Comments window opens.

2   Click the **Add** button. The Edit File Comment window opens.

3   Click the **Copy From** button. The Copy General Comments window opens, displaying the list of existing comments.

4   Click the selection box next to each of the comments that you want to copy into your comments and click **OK**. The comments are copied into the new comment and are listed in the Text Comment box of the Edit File Comment window. Any additional file attachments or markups associated with each comment are also copied to the new comment.

5   In the Edit File Comment window, make any necessary edits to consolidate the text comments.

    Note: *At this point, you can also consolidate graphic markups before saving the newly consolidated comment by clicking the* **Consolidate** *link next to Graphic Markup.*

6   When you are done consolidating comments and markups, click **OK** to save and exit the Edit File Comment window.

To consolidate discussion group comments on a business process or document

1   Use the copy text comments procedure to copy any of the draft comments that you received from the discussion group that you initiated.

2   Click the selection box next to the text comments that you want to include in your new comment and click **OK**. The text comments and any graphic markups will be copied in to your new comment.

3   Edit as necessary and click **OK**.

4   You may select any of the draft comments and click **Remove** if you do not want to include them in the BP record.
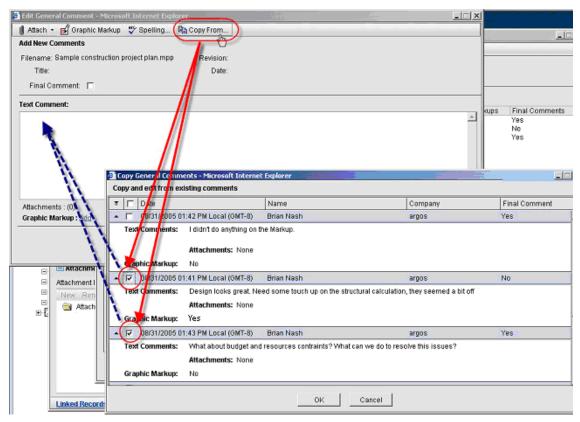
Figure 5-50 Consolidate comments

Copy or consolidate graphic markups

You can copy and consolidate graphic markups made on document attachments to BPs.

To copy and consolidate graphic markups on a BP attachment
The business process must have been sent. You cannot consolidate draft comments.

1   Do one of the following:

   • Click the **Attachments** link at the bottom of the BP form. The Attachments window opens. Select the file and click the **Comments** button.

   • For document-type BPs, in the document list in the lower portion of the document-type BP, select the file to mark up and click the **Comments** button.

   The File Comments window opens.

2   Click the **Add** button. The Edit File Comment window opens.

3   Click the **Copy From** button. The Copy General Comments window opens, displaying the list of existing comments.

4   Click the selection box next to each of the comments that you want to copy into your comments and click **OK**. The comments are copied into the new comment and are listed in the Text Comment box of the Edit File Comment window. Any additional file attachments or markups associated with each comment are also copied to the new comment.

5   In the Edit File Comment window, make any necessary edits to consolidate the text comments. Note that the link next to Graphic Markup at the bottom of the Edit File Comment window changes to "Consolidate."

6   Click the **Consolidate** link. The document opens in for viewing in the Cimmetry AutoVue viewer.

7   In the viewer window, click the **Open Markup(s)** tool or select **File > Open**. The Markup Files window opens, displaying the list of existing markups.

8   Select the markups to be copied and click **OK**. The selected markups will display in layers on the document.

9   Click the **File** menu and choose **Consolidate**. The Consolidate Markups window opens.

10   Do the following to create a new consolidated markup layer:

- Enter a name for the new consolidated markup.
- Select the checkbox next to the markup layers to include, or click the **Select All** button to select all markup layers.
- Select the **Open as active markup and hide the others** checkbox.
- Click **OK**.

The markup elements from the selected layers will be copied into the new consolidated layer. These elements are editable. You can select, modify, or delete individual elements, or add new markups as necessary.

11   Click the **Save** button or select **File > Save** to save the new consolidated markup layer. If you want to add another markup layer, click the **New Markup** button and add markups as necessary.

12   Close the AutoVue viewer window.

13   In the Edit File Comment window, click **OK** to save the consolidated markups and text comments. Close the File Comments window.

PRINTING AND DISTRIBUTING BUSINESS PROCESS FORMS

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At times, you may need to print copies of a business process form, such as an invoice or a purchase order. You can save a copy of the form as a PDF file and print or e-mail the file, print an HTML view, or print from a Word file if a custom print layout has been created for the form.

Note: *To print, the form must be in View mode. View mode refers to the non-editable version of the form. For example, for workflow business processes, this is before clicking the Accept Task button or after the form has gone through all the workflow steps and is complete. For non-workflow business processes, this is after editing has been completed.*

Print a business process form

When printing business process forms from PDF or HTML format, you can choose to include not only the information on the form itself, but also associated information such as general comments and information about file attachments. The print options are:

- Upper form data
- Task details (for business processes with a workflow)
- Line item list
- Line item data
- General comments made to the record
- Information about file attachments on the record or line items
- Comments made to file attachments

If custom print layouts have been created for the business process, the form will print according to the layout that you select.

Note: *For PDF and HTML layouts, the ability to print hidden comments will respect permissions: if you can see hidden comments, you can print them. In custom print, hidden comments are not printed.*

To preview and print a business process form in PDF or HTML format

1 Open the business process record that you want to print. Be sure it is in a view mode.

2 From the **File** menu, choose **Print Preview**, then choose one of the following:
   - **HTML**, to view the form in the browser, which can then be printed.
   - **PDF**:, to open the form in Adobe Reader, which can be saved or e-mailed as a PDF file, or printed.

   The Print Options window opens. This window displays the business process record information that can be printed.

3 Select the checkboxes for the information that you want to print.

4 To select all the checkboxes, click the **Select All** checkbox. To deselect all, uncheck the **Select All** checkbox. If you deselect all checkboxes, only the header and footer will print.

5 Click **OK**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.

   If you chose PDF, you can save a copy by clicking the **Save a Copy** button, or print. To print from HTML format, click on the **Print** icon in the upper right corner.

<u>Print Options</u>

Below is a summary of possible print options. Note that the actual options that are available for a record will depend on the design. Only those options that are applicable to that business process design will appear on the Print Options window. For example, line items options are available for business process types that support line items, the Task Details option displays only for workflow business processes, etc.

Print option	What it prints
Upper Form	Selected by default. This prints the information entered on the upper form.
Task Details	Selected by default. This prints the information shown in the Task Details section of a workflow business process.
Line Item List	Selected by default. This prints line information as it appears on the business process form itself. This is applicable for business processes that support line items.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name, and also include the file title, issue date, revision number, and file size. This is not applicable for document type business processes, which list file attachments in the line item list section.
Record Attachments > Comments	Prints comments associated with file attachments to the record. Record Attachments must also be selected to select this option.
Detail Form	Line item data is displayed in order by line item, and grouped by tab if the business process has multiple line item tabs. This will print all line item data elements present on the detail form, and reflects the layout of the detail form (for example, if the detail form is two-column, the print data is displayed in two columns).
Detail Form > Attachments	Prints information about attachments to each line item. Detail Form must also be selected to select this option.
Detail Form > Attachments > Comments	Prints comments associated with file attachments to a line item. Detail Form and Attachments must also be selected to select this option.

To print a business process form with a custom print layout

1   Open the business process record that you want to print. Be sure it is in a view mode.

2   From the **File** menu, choose **Print Preview > Custom**. The Custom Format Print window opens. The window lists custom layout options set up by the administrator.

3   Select a layout and click **Ok**. The File Download window opens.

4   Choose to **Open** or **Save** the file, which is a Microsoft Word DOC file.

5   Open the file in Microsoft Word and print. This feature can be used with Microsoft Word 2003 and 2007.

Send a PDF copy of a business process form via uMail

You can create and send a PDF copy of a business process record directly from uMail.

To send a PDF copy of a business process form using uMail

1 Open the business process form in View mode.

2 From the **File** menu, click **Send uMail**. The uMail window opens. A PDF copy of the form is automatically attached.

3 Complete the uMail form and send.
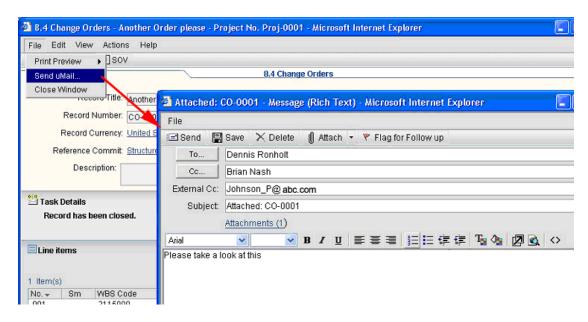
Figure 5-51 Send uMail with a copy of a business process record

SOVS AND BUSINESS PROCESSES

This section discusses how to manage business process records, including searching for existing BPs, transferring ownership, viewing BP properties, and viewing SOV or funding information from within a cost BP.

View an SOV sheet from the business process form

Commit (contract) or spend (invoice) BPs can be set up to automatically create a Schedule of Values sheet. These transactions can be easily accessed directly from the BP form. The BP form remains active.

If the BP has been set up to automatically create an SOV sheet, once the sheet has been created, an SOV button appears at the top of the BP form.

For more information about Schedule of Values sheets, see Chapter 7, "Cost Manager".

To view the SOV sheet created from the cost business process

Once the BP has reached its terminal status, click the **SOV** button. The SOV sheet that corresponds to this transaction opens. Close the SOV sheet to return to the BP form.
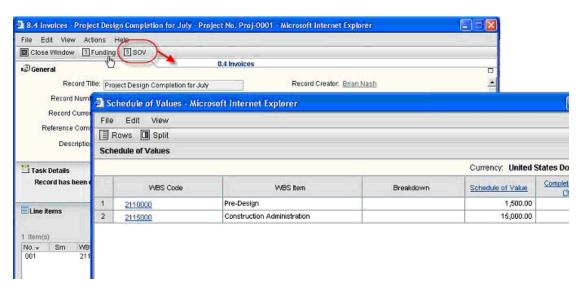
Figure 5-52 SOV sheet created from a BP record

Create SOV breakdowns

You can add SOV breakdowns from this view. Breakdowns are only in use in the SOV sheet, not the cost sheet. If another transaction exists for the WBS code, you will not be able to do a breakdown.

To add WBS code breakdowns that can be used to create invoices

1   Open the SOV sheet by clicking the **SOV** button.

2   Click on a listed WBS code from the sheet. The WBS Details window opens.

See the procedure in Chapter 7, "Cost Manager" for more information about adding WBS breakdowns.

View or edit fund transaction details from the business process form

Commit (contract) or spend (invoice) BPs can be set up to automatically consume or appropriate funds in the funding sheet. These transactions can be easily accessed directly from the BP form.

If the BP has been set up to automatically roll up to the funding sheet, a Funding button will appear at the top of the BP form. This allows you to perform a fund assignment while routing and approving a BP, such as a payment. You can click the button to view the Cell Detail window, and can reassign funding from this window. Access to this button and fund information is dependent upon your Fund Manager permissions.

For more information about fund assignments, see Chapter 7, "Cost Manager".

Commit and change commit (composite view details)

You can view a composite view of both commits and change commits. The SOV sheet is used as a composite view. SOV will be the composite of the PO and all added lines from change commits.

To support line-item mode, SOV has a column called Ref that represents line item numbers.

There are four fixed columns. The columns will be dependent on the mode.

- **Line item mode:** The Ref column represents the line item numbers for both commits and change commits. The Description column shows the short description of the line item from the commit.
- **WBS mode:** The Ref column does not have any data. The breakdown items do not include any ref number. The column width is four characters.

To view funding details from the cost BP
Once the BP has reached its terminal status, click the **Funding** button. The Cell Detail window opens, displaying the details of the transaction.

This is the same window that you would see if you clicked on the link corresponding to this transaction on the project or shell funding sheet.
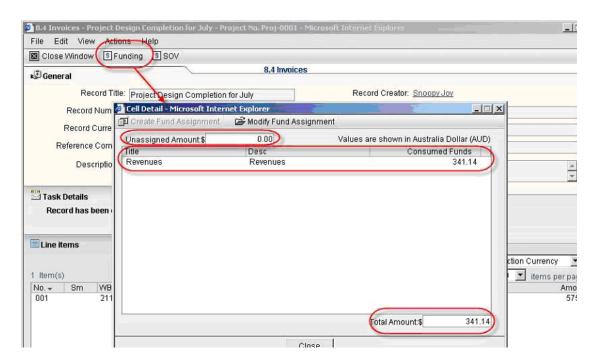
Figure 5-53 Funding cell detail

To reassign funding

Click the **Reassign Funds** button. For more information, see Chapter 7, "Cost Manager".

PAYMENT APPLICATION BUSINESS PROCESSES

Payment application business processes enable you to track your payment information using a standard payment application method (for example, tracking retainage, stored materials, past payments, etc.).

Each payment application record will reference a particular base commit record. The line items on the payment application will reflect the line items on the base commit plus any associated change commits.

Payment applications, and associated base commits and change commits, are designed in uDesigner. For more information, refer to the *uDesigner User Guide*.

Note: *Only one payment applications type business process can be configured for a project or shell. Only one payment application record can be routed at any time for a commit.*

Enter payment application line item information

Line items on payment applications have special functionality. Payment application line items are created automatically from the line items on the associated base commit and any change commits. The line items appear by default on a grid. The columns that appear on the grid (including formula columns) are part of the business process detail form design.

To enter line item information on a payment application

1 In the payment application business process form, click the **Add** button and choose **Detail Line Item**. The Line Items window opens. The Line Items window for payment applications is different than other BPs: the window displays a list of line items from the base commit and any change commits.

> **Note:** *Depending upon the design of the BPs, some fields may be auto-populated with data from the base commit and change commit. For a field to auto-populate, the same data element must be used on the base commit, change commit, and payment application. Line items appear from the base commit and any change commits based on the statuses of those business processes, as designed in uDesigner.*

2 Fill in the line item fields. You can enter values in any editable field on the grid. Editable fields appear with a white background on the grid.

3 While viewing or editing data, you can split the grid so that the cost codes or other columns are always in view on the left, allowing you to scroll through other columns to view or enter data on the right. To split the grid:

a Click the **Split** button. The window splits vertically, with a moveable vertical bar.

b You can move the vertical bar as necessary. Use the horizontal scroll bars to scroll through the columns on both sides of the vertical bars. For line item entry, both sides are editable.

c You can click the **Freeze** button to make the left side of the vertical bar unmovable.

d To unfreeze the left side, click the **Freeze** button again. To remove the split, click the **Split** button again.

4   When you have completed editing the Line Items window, click **OK**.

An icon appears in the first column to indicate which rows have been modified.

To undo line item changes without closing the Line Items window
In the Line Items window, click the **Cancel Row Changes** button. Any line item information that you have entered or changed will be cleared, and the fields will revert back to their original values.
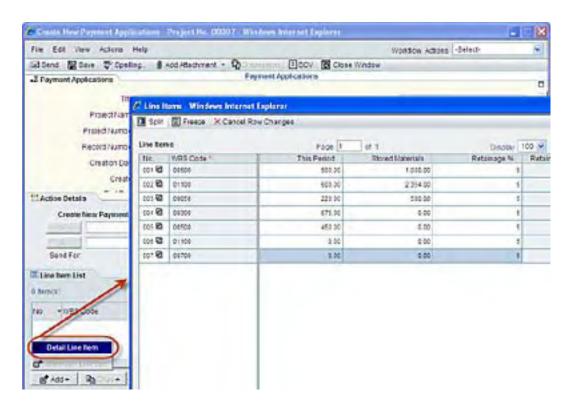
Figure 5-54 Payment application Line Items window

View payment application line item history

When payment application records in view mode, a Line Item History button becomes available. This provides a snapshot view of the line item grid as of the last entry.

Note: View mode refers to the non-editable version of the form. For example, for workflow BPs, this is before clicking the Accept Task button or after the form has gone through all the workflow steps and is complete. For non-workflow BPs, this is after editing has been completed.

To access line item history

1   Open a payment application record from the log. Be sure the record is in view mode.

2   Click the **Line Item History** button. The Line Items window opens, displaying the payment application line item grid, as view-only, with data entered to date.

3   You can optionally split the grid so that the cost codes or other columns are always in view on the left, allowing you to scroll through other columns to view data on the right.

     a   To split the grid, click the **Split** button.

     b   You can click the **Freeze** button to make the left side of the vertical bar unmovable.

     c   To unfreeze the left side, click the **Freeze** button again. To remove the split, click the **Split** button again.

4   Click the **Close** button to close the window.
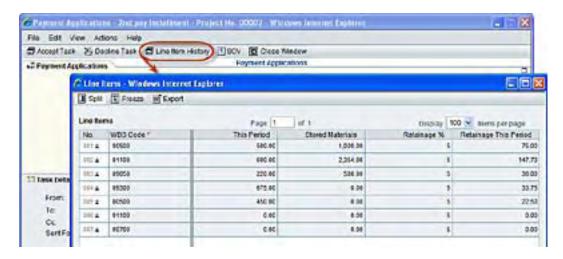
Figure 5-55 Line item history

By default, the first 100 line items are displayed on the page. If your payment application BP has more than 100 line items, you can scroll through the other pages, or you can choose to display up to 500 line items on the same page. Displaying more than 100 line items on the page may take several seconds to load.

Export line item history

You can export the line item history of a payment application record to a CSV file.

To export payment application line item history information

1   Open a payment application record from the log. Be sure the record is in view mode.

1   Click the **Line Item History** button. The Line Items window opens.

2   Click the **Export** button. A confirmation window opens. If there are many line items, the operation can take more than 20 seconds.

3   Click **Yes** on the confirmation window. The File Download window opens.

4   Click **Save** and specify the file name and location to which to save a copy of the CSV (export) file.

Save in Draft mode

You can save a payment application BP record in Draft mode by clicking the **Save** button from the toolbar.

When you open the draft again to send, the system will check to see if there is any modification done by other users. If the system identifies that there is modification to your payment application, you will be asked to accept new changes before proceeding.

Draft mode and SOV synchronization

If you create a payment application record and save it in Draft mode, and your SOV changes before you route the draft payment application, an error can result when you attempt to route the record. The error *Line Items must be validated before proceeding* can result if the SOV has changed while your payment application is in Draft mode.

To fix payment application BPs that are affected by changes to the SOV

1   Open the draft payment application record.

2   Click the **Add** button and click **Detail Line Item** to open the line item entry grid. Line items that are affected by SOV changes are indicated with check marks.

3   Click **OK**. The line items are validated against the SOV.

View the schedule of values sheet

The schedule of values (SOV) for payment applications functionality provides a way to assemble information from the base commit and change commits, as well as the payment history, in an SOV sheet. You can open the SOV sheet either from the Schedule of Values log, or from within a payment application record (the record must be in an editable mode).

When the base commit record is created and reaches a specified terminal status (for example, Approved), the SOV sheet is automatically created, and line items display as rows. As change commits are created and approved (or other specified status), they are added automatically to the SOV sheet. As payment records are created, these also will affect the SOV. (Data that is displayed on the SOV sheet will depend on the columns that have been added to the SOV structure.) The SOV displays the source information from the base commit any change commits. The source for each line can be one or more lines from one or more records.

Depending on the design of the associated business processes, the SOV may list each line entry for the base commit and all change commits as separate line items, or it may group entries with the same WBS code and display the total.

To view the associated SOV

1   In the Navigator, click Cost Manager>Schedule of Values > Payment Applications. The Schedule of Values: payment Applications log opens. SOVs are listed by their associated base comment record numbers and descriptions.

2   Select an SOV and click Open (or double-click the record). The Schedule of Values sheet for the base commit associated with the payment application opens.

3   You can optionally split the grid so that the cost codes or other columns are always in view on the left, allowing you to scroll through other columns to view data on the right.

    a   To split the grid, click the **Split** button.

    b   You can click the **Freeze** button to make the left side of the vertical bar unmovable.

    c   To unfreeze the left side, click the **Freeze** button again. To remove the split, click the **Split** button again

4   To view source information from the base commit and/or change commits, locate the Scheduled Value column.

> **Note:** *This assumes that a column has been added to the SOV that is associated with the datasource "Scheduled Value." The column name may vary. Click the link in a cell. The Cell Details window opens, displaying the source of the line item information -- the commit record(s) with a line item entry for that WBS code.*

5   Click the **Close** button to close the window.

To view the associated SOV from within the payment application line item grid

1   Open the payment application form. Be sure the form is not in a view-only mode.

2   Click the **SOV** button from the record toolbar. The Schedule of Values sheet opens.

REQUEST FOR BID BUSINESS PROCESSES

The Request for Bid (RFB) feature allows companies to invite bids from vendors and suppliers. The bid invitation can be addressed to a specific set of vendors, or can be opened up to the public. The bidders are provided with a simple Unifier interface that does not require special training to use. Bidders receive email notifying them that they have received a bid invitation so they can log into Unifier and submit their bids.

HOW RFBS WORK

Once the RFB business process is active in Unifier, the bid procedure runs as follows:

You:

1   Start the bid procedure by opening the RFB, filling in the form, and sending it for internal review (if necessary).

2   When the internal review is complete, you:

    a   Assemble the bid package and prepare the bid invitation for distribution.

    b   Send out the bid invitations, along with a user name and password so that the vendors can log into Unifier and submit their bids.

    Once the bid invitations have been sent, you must wait, then, for the bid due date to pass.

The vendors:

When the vendors receive the bid invitation, they:

1   Log into Unifier and open the bid request.

2   (Optionally) Request clarification of any questions or issues before submitting the bid. (They can use the uMail link on the bid request for this purpose.)

3   Submit the bid.

You:

When the due date for all bids is reached, you:

1   Tabulate the bids for comparison.

2   (Optional) Open discussions about the bids, if necessary.

3   Award the bid to a vendor.

SENDING THE BID REQUEST FOR INTERNAL REVIEW AND APPROVAL

For most companies, an internal review is necessary for the purpose of verifying the scope of the project, as well as other things, such as terms and conditions, architectural drawings, and structural materials. After the bid request is approved, you can start the bidding process.

To send the bid request for approval

1   Navigate to the RFB log and click **New**. The RFB BP form opens.

2   Complete the form, then use the **Wokflow Actions** field in the upper-right corner of the window to send the RFB into the workflow.

Once the approval request reaches the end of the workflow, you should receive the completed BP as a task in your task log. When you open the form this time, you should see an **Invite Bids** button on the toolbar, with which you can start the bidding process.
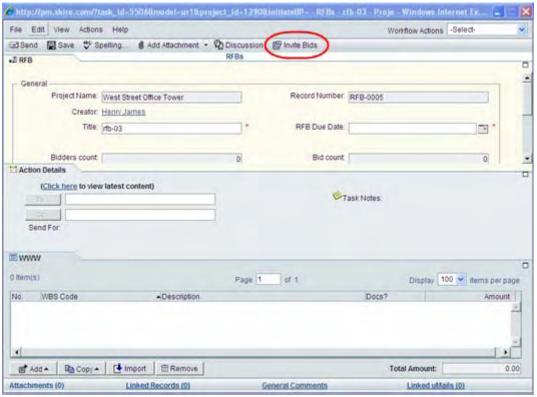
Figure 5-56 Invite Bids

STARTING THE BIDDING PROCESS

After the RFB has completed the internal review and approval, you can start the bidding process.

To start the bidding process

1   Open the RFB and click the **Invite Bids** button on the toolbar. Unifier displays a notice that the item is now open for bidding.

2   Click the **Invite Bids** button again.

The Bid Invitations window opens. From this window, you can choose the vendors you want to submit bids. Unifier will send both a bid invitation to the vendors and also a login name and password they can use to access Unifier to submit their bids.

Figure 5-57 Bid Invitations window

3　Click **Send Password**. The Bidders window opens, showing a list of vendors.

Figure 5-58 Show Bids window

4　Choose the vendor(s) you want to submit bids and click **Send Password**. Then click **Close Window**.

5　On the Bid Invitation window, click **Close Window**.

Once you have sent out all the bid invitations, Unifier freezes the RFB until the bid due date passes. After the due date passes, you can compare the bids.

About the Vendor List

The list of vendors you use to distribute the bid invitations can include your company's entire list of vendors or a list of "approved vendors" specific for the project you are working on. Your administrator can design a business process that filters the master list of vendors into a sub-set of this list for your project. If such a sub-set of the vendor list has been created for your project, this is the list of vendors you will see in the Bidders window, unless this is a public bid. For public bids, the filtered vendor list will be ignored.

To see the approved list of vendors with more information, go to the project **Logs** node in the Navigator and click on the business process that created the vendor list for your project. Unifier will display the list of records in that business process. To see the approved list, click the **Filtered Referenced Records** button on the toolbar.

COMPARING THE BIDS

Once the bidding process ends (after the bid due date has passed), you can open a bid tabulation to compare the bids you received. A default bid tabulation sheet is available in Unifier, or your company may have a custom-designed bid tabulation sheet.

To compare bids

1 Open the RFB record.

The toolbar displays a **Show Bids** button.

Figure 5-59 Show Bids button

2 Click **Show Bids**. The Show Bids window opens, listing the bids you received.

3 From the list, select the vendors you want to compare and click **Compare Bids**.

Unifier tabulates the bids from the vendors you selected and displays a **Compare Bids** sheet. This sheet will look different, depending on whether you are using the default comparison sheet supplied by Unifier, or a custom-designed comparison sheet created by your company.

Default bid comparison sheet:
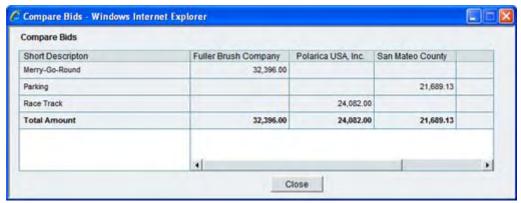
Figure 5-60 Compare Bids window

The default bid comparison sheet shows the bid amounts for each line item for which the vendor submitted a bid.

Custom bid comparison sheet:
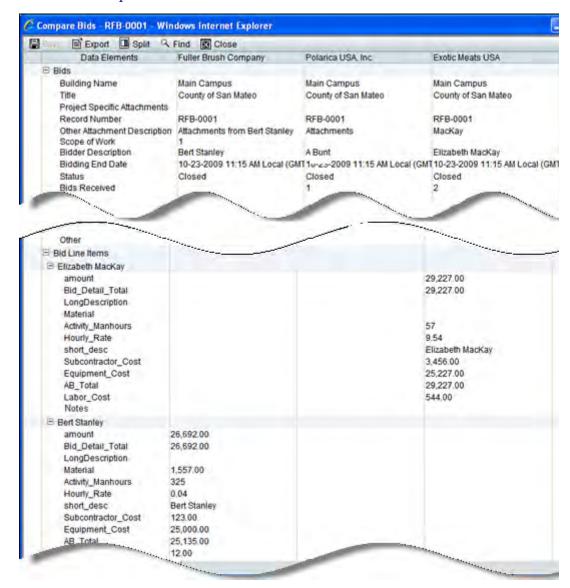
Figure 5-61   Example of a Custom Bid Comparison sheet

The custom-designed bid comparison sheet shows the following:

- General bid information from each vendor who submitted a bid.
- Each line item from the RFB that the vendor has bid on. If the vendor adds line items of their own to the bid, these line items will appear on the sheet as well.

Bid comparison options

On the custom bid comparison sheet window, you have the following options:

Use this button:	To:
Save	Save the data you entered or modified on the sheet. (This will not affect the bidder's data.)
Split	Split the screen so you can easily compare vendors by column.
Find	Find specific data on the sheet. When you click **Find**, a window opens where you can specify the vendor (column) and the value you want to locate. Unifier will search the line items in that column and highlight the value, if it finds it.

In addition, some fields on the sheet may be editable, depending on how the sheet was designed.
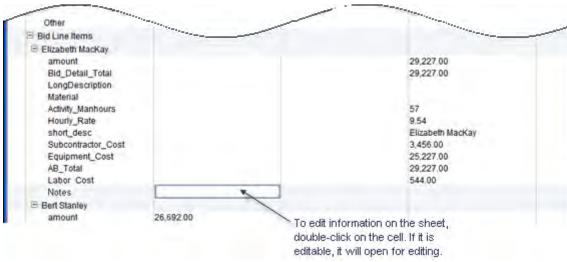
Figure 5-62 Edit on custom bid comparison sheet

WHAT THE VENDOR DOES

Use the instructions in this section to familiarize vendors with the Unifier interface so they can submit bids.

> **About the Bid Due Date Time**
>
> Be aware that the due date and time for the bid reflect the time of the server on which the Unifier application is running. (Skire servers operate on Pacific Standard Time.)

To log in to Unifier

If you received a bid invitation, you should also have received an email containing a link to Unifier, a user name, and a password.

1   Open the bid invitation and click the link provided.

2   At the login screen, enter the user name and password provided in the email.

The Unifier home screen opens.

Figure 5-63 Unifier Home

To submit a bid

1   In the Navigator on the left, click **Request for Bid/Bids** (or **Request for Bid Private/Bids**, if you have been invited for a private bid). A bid log appears on the right pane.

2   On the right pane, double-click the name of the RFB you received. The Request for Bid form opens.

> ***Got questions?***
>
> Before you submit the bid, you can communicate with the requestor about any questions or issues that need clarification. The Request for Bid form provides a link to Unifier's uMail feature. To send a communication:
>
> 1   Click the **Linked uMails** link in the lower-right corner of the window. A Linked uMails window opens, showing a chronological list of any existing communications.
>
> 2   Click **New**. An email-type form opens, where you can send a communication to the requestor.

3   Click the **Bid** button in the upper-left corner of the screen. The request for bid form opens for editing.

The illustration below shows an example of a bid form opened for editing.
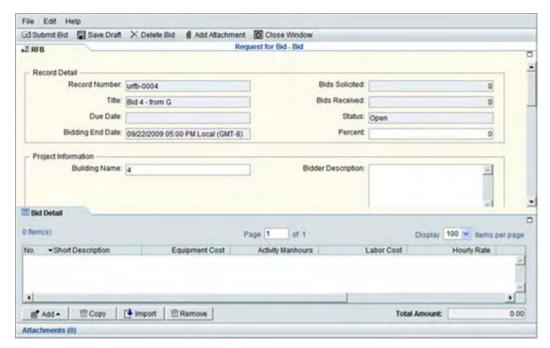
Figure 5-64 Bid Form

4 Fill in the upper form fields that are required.

5 Click the **Add** button in the lower-left corner and choose **Detail Line Item**.

A **Request for Bid Line Item** window opens.

6 Fill in the fields on this form and click **OK**.

The line item detail you entered appears on the tab at the bottom of the screen.

7 (Optional) To add an attachment to the bid, click **Add Attachment** in the toolbar. A file upload window opens.

Figure 5-65 Attach Files window

S k i r e , I n c . C o n f i d e n t i a l

a   Click the **Add** button. A window opens showing the directory tree of files on your machine.

b   Navigate to the file you want to attach and select it. Then click **Open**. The file name appears in the **Upload List** field.

c   Click the **Upload** button. An Upload Status window opens.

d   When the file has been uploaded, click the **Close** button.

On the Request for Bid form, Unifier indicates the attachment in the lower-left corner of the window. You can click on **Attachments** to verify that the attachment is correct.

8   Click the **Submit Bid** button.

Unifier accepts the bid.

To withdraw a bid

1   Log in to Unifier.

2   In the Navigator on the left, click **Request for Bid/Bids** (or **Request for Bid Private/Bids**, if you were invited for a private bid). A bid log appears on the right pane.

3   On the right pane, double-click the name of the RFB you received. The Request for Bid form opens.

4   Click the **Bid** button in the upper-left corner of the window. The request for bid form opens for editing.

5   Click the **Withdraw Bid** button in the upper-left corner of the window.

To view or print the bid after submitting it

1   Log in to Unifier.

2   In the Navigator on the left, click **Request for Bid/Bids** (or **Request for Bid Private/Bids**, if you were invited for a private bid). A bid log appears on the right pane.

3   In the log, select the bid record that you want to view or print.

4   Click the **View Bid** button. The bid form that you submitted opens for viewing.

5   (Optional) Print the bid form from the **File** menu. Choose either:
   • **Print Preview > HTML Format:** The print view of the form will open in the browser. Landscape orientation usually provides best results for HTML format. To print the bid, click the print icon in the upper-right corner of the window.
   • **Print Preview > PDF Format:** Opens the form in Acrobat Reader. Print the bid using the **File** menu in Acrobat.

LEASE BUSINESS PROCESSES

You can use the Lease business process at the project or shell level to set up and manage real estate leases and view the expected Payment Schedule (regular as well as straight line) using the lease data from the business process. You can set up a Lease business process if you are the landlord (lessor), or if you are the tenant (lessee). You can use it for new leases you have just contracted, or existing leases. The Lease business process allows you to track incoming or outgoing payments, and you can use the Generic Cost Manager to roll up the amounts.

Lease business processes are workflow or non-workflow cost business processes. If they are workflow business processes, you can route them like other workflow BPs in Unifier. You can use them in conjunction with auto-created business processes for items like Payment Requests. Auto-created BPs must be set up by your Company Administrator.

Note: Lease BPs cannot be defined at the Company level.

In addition to typical BP behavior, the Lease BP supports:

- Consolidation from other Cost BPs
- Snapshot creation
- Auto-creation
- Auto generation of Regular and Straight Line Payment schedules
- Integration methods for create upper form as well as line items of all tabs
- Multiple tabs for line items

Note: The Lease BP does not support WBS.

Lease BPs are set up in uDesigner, with these characteristics:

- **Type:** Cost
- **Sub-type:** Line Items with Multiple Codes
- **Classification:** Lease

If needed, your Company Administrator can set up an auto-created BP to work with the Lease BP. For example, you might need an auto-created BP to periodically generate lease payments.

For Lease BPs, in Unifier User Mode you can:

- View regular and straight schedules menu option
- Disable the auto-creation of related BPs, or re-enable these auto-created BPs as needed
- Create Payment Schedules (regular and straight line)
- Create snapshots of the lease for historical purposes

LEASE BUSINESS PROCESS TERMINOLOGY

Lease: An agreement whereby the owner of real property (the landlord or lessor) gives the right of possession to another (the tenant or lessee) for a specified period of time (the terms of the lease) and for a specified consideration (the rent or lease payments).

Straight line: The straight-line method implies that the cash flows in the form of fixed lease payments over the lease term are aggregated and divided by the lease term to arrive at the

monthly income or expense. This results in an equal impact in the income statement in each reporting period irrespective of the fact that cash flows differ.

Escalation: A clause in a lease which provides for the rent to be increased to reflect changes in expenses paid by the landlord such as real estate taxes, or operating costs. An escalation can be accomplished by several means such as fixed periodic increases, increases tied to the Consumer Price Index, or adjustments based on changes in expenses paid by the landlord in relation to a dollar or base year reference.

LEASE BUSINESS PROCESS USE CASES

The following are examples of how you can the Lease BP to manage leases.

Use Case 1: Various Payment Terms for the same lease

You execute a lease on December 1, 2003 with a commencement date of April 1, 2004 and a termination date of March 28, 2005.

Payment Term 1: A term of $4,000 per month for rent begins on April 1, 2004 and ends on March 28, 2005. The due day is 1.

Payment Term 2: A term of $300 per month for common area maintenance (CAM) starts on April 1, 2004 and ends on March 28, 2005. The due day is 1.

Payment Term 3: A semi-annual term of $500 for taxes begins on September 1, 2004 and ends on March 28, 2005. The due day is 1.

Use Case 2: Semi-annual lease terms with proration

The lease term start date is February 15, 2002, the end date is January 1, 2003. The frequency is semi-annual, and the amount is $1,000 per term. The Proration Rule accounts for the date difference in days, with the end date included.

Use Case 3: Handling rent pre-payments

The lease term start date is January 1, 2003, the end date is June 30, 2003. The frequency is monthly, and the amount is $6,000 per month. The due day is 1. The pre-payments are the first and last month's rent.

Use Case 4: Straight lining with quarterly payments

The lease begins mid-month on 15 January, 2002 and ends mid-month on 14 January, 2003.

• Rent for the first quarter is $100
• Rent for the second quarter is $200
• Rent for the third quarter is $300
• Rent for the fourth quarter is $400
• Rent for the fifth quarter is $500

The rent abatement of $10 is given only in the first month. The rent is scheduled to be paid in full at the beginning of each month.

Use Case 5: Straight Lining with monthly payments

The terms are a 12-month lease, with the first month rent-free. The rent is $1000 per month. Real estate rules (FASB 13) require that this rent be normalized (or straight-lined) across the entire lease term.

Use Case 6: Lease term of 20 years with escalation

The base, or primary, lease term is 20 years. During the base lease term, the monthly lease payment is $10,000 for the first 10 years and $12,000 for the next 10 years.

WORKING WITH LEASE BUSINESS PROCESSES

Lease BPs contain data elements that you can use in line items to perform lease data calculations. These calculations result in the generation of lease payment schedules. The Lease BP is created in uDesigner the data elements that you use in line items that you add to the BP to track certain aspects of the lease and perform the lease calculations. For example, you can add lines items for rent, cost of maintenance (CAM), or taxes to a lease BP. The data in these line items is data that you enter, or data that is populated based on calculations.

You can use the Lease BP as a source BP for an auto-created destination BP. The auto-created BP could be used to generate Payment Request BPs for the lease that are subsequently routed for approval.

Lease BP allows you to view expected payments for the lifetime of the Lease using the Regular Payment Schedule and Straight Line Schedule reports.

Snapshots of the lease can be created automatically when the Lease BP reaches a certain status. For example, a snapshot of the lease can be generated when the BP reaches the status of Approved. Or, you can create a snapshot manually as needed.

DATA ELEMENTS FOR PAYMENT TERMS

These are the data elements that you might use to create the payment terms for your Lease BP. The data elements that are available to you will vary depending on how the Lease BP was designed in uDesigner.

Data Element	Description
Start Date	The start date for the lease.
End Date	The end date for the lease. The end cannot be more than 100 years per line item. For example, January 1900 to December 1999 is allowed but January 1900 to January 2000 is not allowed. If you need a lease of more than 100 years, you can use multiple payment term lines to do so.
Frequency	The frequency of the lease payments. Values can be One-time, Monthly, Three months, Six months, or 12 months. For example, if the frequency is 3 months, 6 months,9 months,12 months then the daily rate is calculated based on 3 months = 90 days 6months= 180 days and 12 months =360 days if proration method is Days/month.
Payment Due Day	The day of then month on which the lease payment is due. Valid values are 1-28.
Latest Payment Due Day	The latest day of the month by which payment is due.

Payment Creation Lead Time	This is the day that any implemented Payment Request BP records are auto-created. Denotes the delta value in days between 1 and 30 before Latest Payment Due Day. For example, if the value for Latest Payment Due Date is 3/15/2008 and payment creation lead time is 5, the creation date will be 3/10/2008. This will result in the population of the Payment Creation Date value.
Payment Type	The payment type for the lease.
Straight Line	Defines whether the Payment Schedule is a straight line or regular schedule. Default is No.
Amount	The amount of the lease.
Short Description	The description of the lease.
Proration Method	How the lease will be prorated. For example, if for 365 Days/Year, the yearly rent/no. of days (365) = daily rent. In this example, if a lease has a monthly rent of $3000, and you choose fifteen days of a 30 day month, the rent is $1479.45 ($36,000/365 x 15 = 1479.45).
Escalation Method	The method by which the lease payments will be escalated. The possible values are None, Fixed Amount, or Percentage.
Escalation Value	Calculated based on the Escalation Method.
Escalation Frequency Term Length	Length of the escalation term.
Escalation Frequency Term Type	The type of term for the escalation frequency. Can be Weeks, Months, Days, or Years.
Additional Payment Amount	The amount of any additional lease payment.
Payment Due Date	The payment due date for the lease. The value for this field is calculated based on the value of Payment Due Day and Frequency.
Latest Payment Due Date	The latest due date for lease payments. The value for this field is calculated based on Start Date, End Date, and Frequency.
Payment Creation Date	The date of payment creation for the lease. The value for this field is calculated based on Payment Creation Lead Time.
Payment Amount	The value for this field is calculated based on the Amount.

Note: *Payment Schedule calculations for Lease base frequencies and Escalation frequencies will differ slightly depending on the frequency used. For example, a 10 year lease escalating each year will differ slightly from a lease escalating every 52 weeks (as opposed to a lease escalating every 365 days). Over a 10 year period, if the lease calculation is done in days, there can be years with more than 365 days. Also, if the calculation done in weeks, 52 weeks might be a day or two short of a full year depending on the year used.*

CREATING AND MANAGING LEASE BUSINESS PROCESSES

To create a Lease business process record

1   Navigate to the BP log and select the Lease BP.

2   In the Lease BP log, click **New**. The Lease BP form opens.

3   Complete the Lease BP record. Add the basic lease information to the upper form, including the lease name, number, class of lease, and other details. Add the routing information for the workflow if the BP is a workflow BP.

On the detail form, add the payment terms in the Payment Setup tab. Click the **Add** button to add a line item for each aspect of the lease for which you want to create a payment schedule. For example, you can add individual line items for rent, maintenance costs, and taxes.

See "Data Elements for Payment Terms" for details on the data elements to use when you are creating the payment terms.

4 Click **Save**.

To edit a line item
As long as the Lease BP form is still a Draft, you can edit a line item at any time. Open the grid by clicking the **Add** button. The Line Items window opens. Make changes and click **OK**.

To remove a line item
In the Lease BP form, select the line item to remove and click the **Remove** button.

VIEW OR EXPORT PAYMENT SCHEDULE REPORTS

The Lease BP creates the Regular Payment Schedule report and the Straight Line Schedule report to allow you to view your future lease payments.

The lease payment schedule reports are generated automatically after you add or change a line item for the Lease BP. The reports are time stamped, and are overwritten each time you add or modify a line item. You can capture a particular report by exporting it to a PDF file.

To view or export payment schedule reports

1 Open a Lease BP record from the log.

2 Choose **Payment Schedules > Regular** or **Payment Schedules > Straight Line**. The payment schedules report window opens.

The Regular Payment Schedule report lists the lease payments as calculated using Frequency, Start Date, and End Date.

The Straight Line Schedule report lists the lease payments averaged over all of the line items of the payment terms for the lease over the life of the lease. You can specify which line items that you want to include in the Straight Line Schedule report by clicking the Straight Line radio button for each line item to **Yes** for each item you want listed in the report.

3 Click the **Export** button to save all of the report rows or selected rows to a PDF file. Click **Save** to create the PDF file of the report.

4 Click the **Close Window** button when you are done viewing the report.

USE AUTO-CREATED BUSINESS PROCESSES WITH LEASE BUSINESS PROCESSES

To use an auto-created business process with a Lease business process
It is not mandatory to have an auto-created BP to work with your Lease BP. If you do not need approval of any aspect of the lease you are managing with the Lease BP, you do not need to have your Company Administrator set up an auto-created BP to work with the Lease BP. For example, if you are a landlord, you probably do not need approval to accept rent payments.

However, if you are a tenant, you might need approval of certain payments. In that case, using an auto-created BP can be useful.

The Lease BP allows the you to use auto-created BPs that are set up by your Company Administrator to create other BPs to be routed for approval. For example, a Lease BP can be set up to auto-create another Cost BP (for example, a Payment Request BP) which is created a certain number of days before the Latest Payment Due Day for the lease, or is triggered by the Lease BP status. See "Auto-creating Business Process Records based on conditions or frequency" on page 153 for details.

Note: *The value for Payment Creation Lead Time is used to calculate when the scheduler will invoke the creation of Payment Requests through auto-creation.*

WORK WITH LEASE SNAPSHOTS

The lease snapshot allows you to create a historical picture of the lease that you can preserve before the lease is amended or otherwise modified. The snapshot can be created automatically when the Lease BP reaches a certain status, or you can create it manually whenever necessary. Automatic snapshot creation is set up in uDesigner.

To save an automatically created snapshot

1   When a the status of the Lease BP changes and a snapshot is created automatically, you receive a message.

    Enter a title for the snapshot (if you want to overwrite the default title), and an optional description.

2   Click **OK**. The snapshot is saved in Unifier.

To create a snapshot manually

1   While in the Lease BP, choose **File > Create Snapshot**.

2   Enter a title for the snapshot (if you want to overwrite the default title), and an optional description.

3   Click **OK**. The snapshot is saved in Unifier.

To view and manage snapshots

1   While in the Lease BP, choose **View > Snapshots**. The Snapshots window opens.

2   The snapshots are listed in the window. Manually created snapshots display Yes under the User Created column; system created snapshots display No.

3   Select a snapshot from the list and click **Open** to allow you to save the snapshot as a PDF file.

4   Select a snapshot from the list and click **Properties** to view snapshot properties and change the title or description of the snapshot.

5   Select a snapshot from the list and click **Delete** to delete a snapshot.

6   Click **Close** when you a done viewing snapshots.

BUSINESS PROCESS FUNCTIONALITY IN UNIFIER

Not all BPs work with all functional areas of Unifier. This table lists the available BPs and the area of Unifier in which the BP works.

Type	Sub-Type	Classification	Project (Standard)	Shell (WBS)	Shell (Generic)	Company
Cost	Commit at Company level	-				X
Cost	Line item with WBS code	Generic	X	X		
Cost	Line item with WBS code	Transfer	X	X		
Cost	Line item with WBS code	Base Commit	X	X		
Cost	Line item with WBS code	Change Commit	X	X		
Cost	Line item with WBS code	General Spends	X	X		
Cost	Line item with WBS code	Payment Applications	X	X		
Cost	Line item with fund code	Generic	X	X		
Cost	Line item with fund code	Transfer	X	X		
Cost	Line item with both fund and WBS code	Generic	X	X		
Cost	Line item with both fund and WBS code	Transfer	X	X		
Cost	Line item with company account code	Generic				X
Cost	Line item with company account code	Transfer				X
Cost	Line item with asset code	-				X
Cost	Line item with multiple codes	Generic			X	
Cost	Line item with multiple codes	Transfer			X	
Cost	Line item with multiple codes	Base Commit			X	
Cost	Line item with multiple codes	Change Commit			X	
Cost	Line item with multiple codes	General Spends			X	
Cost	Line item with multiple codes	Lease			X	
Line item	-	-				X

Type	Sub-Type	Classification	Project (Standard)	Shell (WBS)	Shell (Generic)	Company
Line item	-	-	X	X	X	
RFB	-	-	X			
Simple	-	-				X
Simple	-	-	X	X	X	
Document	With folder structure	No detail form	X	X	X	X
Document	With folder structure	With detail form	X	X	X	X
Document	Without folder structure	No detail form	X	X	X	X
Document	Without folder structure	With detail form	X	X	X	X
Project/Shell Creation	Simple		X	X	X	X
Project/Shell Creation	Line Item		X	X	X	X
Text	-	-	X	X	X	X
Resource	Resource booking	-	X			
Resource	Timesheets	-				X

6 **S**MART**F**ORMS

In this chapter

‣ *Creating project or shell workflow and non-workflow business processes*
‣ *Creating company workflow and non-workflow business processes*
‣ *Working with multiple tabs in business process line items in SmartForms*
‣ *Updating in-progress workflow business processes*

ABOUT SMARTFORMS

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SmartForms enable you to manage business processes from Microsoft Word, without having to be logged into Unifier. With SmartForms, you can update XML templates in a desktop application like Microsoft Word to create new workflow or non-workflow BP records. You can also update existing in-progress workflow records from Word and then upload the records to Unifier. You can use SmartForms to work with business processes at the project, shell, or company level. Any business processes that can be updated through Web Services work with SmartForms.

The Unifier SmartForm Application is a Unifier plug-in that allows you to integrate Unifier's SmartForm functionality with Microsoft Word. SmartForms offers the following benefits:

- SmartForms allows you to create or update business process forms from Microsoft Word without having to be logged into Unifier.
- SmartForm templates can be forwarded to non-Unifier users to enter data, which can later be uploaded into Unifier by a Unifier user to create or update business process records.
- Existing templates can be modified to work with Unifier
- Forms can be printed for a legible paper presentation

SMARTFORMS PREREQUISITES

To work with SmartForms requires the following applications:

- **Microsoft Word 2003 or 2007**
- **SmartForms plug-in:** See the *SmartForms Installation and User Guide* for details on installing the SmartForms plug-in. This guide is available from the Unifier Support window, in the Download tab.
- **uClient Configurator:** To create new records using SmartForms, you must have uClient Configurator installed. When you install the SmartForms plug-in, the uClient Configurator is also installed. The *uClient Configurator Setup Guide* is available in the uClient Configurator Help menu.

Note: *The following special characters are supported in text fields of SmartForms: ? ! @ $ # % & ; : , ~ | + = - [hyphen]. These special characters are not supported: " ' --> emdash [extended hyphen] Microsoft Word has functionality to substitute an emdash for two hyphens, and to substitute smart quotes for straight quotes. You might want to disable this substitution functionality when you are using SmartForms in Microsoft Word under Tools > AutoCorrect options, on the AutoFormat As You Type tab. Also, review the settings for special characters on the AutoCorrect tab.*

BUSINESS PROCESSES THAT CAN BE CREATED OR UPDATED USING SMARTFORMS

These business process types can be created and updated using SmartForms:

- Cost - Line Item with WBS Code - Generic [Upper and Lines]
- Cost - Line Item with WBS Code - Transfer [Upper and Lines]
- Cost - Line Item with WBS Code - Base Commit [Upper and Lines]
- Cost - Line Item with WBS Code - Change Commit [Upper and Line items if SOV = Group By Cost Codes]
- Cost - Line Item with Fund Code - Generic [Upper and Lines]
- Cost - Line Item with Fund Code - Transfer [Upper and Lines]
- Cost - Line Item with both Fund and WBS Code - Generic [Upper and Lines]
- Cost - Line Item with both Fund and WBS Code - Transfer [Upper and Lines]
- Cost - Line Item with Multiple Code - Generic with configurable manager as CM0 [Upper and Lines]
- Cost - Line Item with Multiple Code - Transfer with configurable manager as CM0 [Upper and Lines]
- Cost - Line Item with Multiple Code - Base Commit with configurable manager as CM0 [Upper and Lines]
- Cost - Line Item with Multiple Code - Change Commit with configurable manager as CM0 [Upper and Line items if SOV = Group By Cost Codes]
- Cost - Line Item with Multiple Code - Lease with configurable manager as CM0 [Upper and Lines]
- Line Item [Upper and Lines]
- Simple [Upper Only]
- Text [Upper Only]

CREATING BP RECORDS USING SMARTFORMS

Using SmartForms, you can create these types of business process records:

- Project or shell workflow business process
- Company workflow business process
- Project or shell non-workflow business process
- Company non-workflow business process

CREATING AND UPLOADING BUSINESS PROCESSES

SmartForms templates are provided by your administrator. You use the SmartForms templates to create BPs. The following steps describe the general process for creating a BP record:

1 Download a blank SmartForm template from the business process log.

2 Using Microsoft Word, add the data to the template.

3 Upload the form to Unifier using the Unifier menu. The Unifier menu is added to Microsoft Word when you install the SmartForm plug-in.

Unifier creates a new BP record from the SmartForm and adds the record to the applicable workflow.

Note: *This basic description applies to workflow and non-workflow BPs at the project, shell, or company level.*

Create a business process record using a SmartForm template

You use the same procedure to create all types of BPs using SmartForms. When you are ready to submit the form to Unifier, the process varies depending on the type of record that you are creating.

To create a BP record using a SmartForms template

1 In User Mode, navigate to the BP log from which you want to create the record. You can create a record from a company, project, or shell BP log.

2 Click the **Export Template** button.

3 Select a template to download from the **SmartForm** menu. If you do not see a template that you need, contact your company administrator.

4 To open the template, click **Open**. The document opens in Microsoft Word.
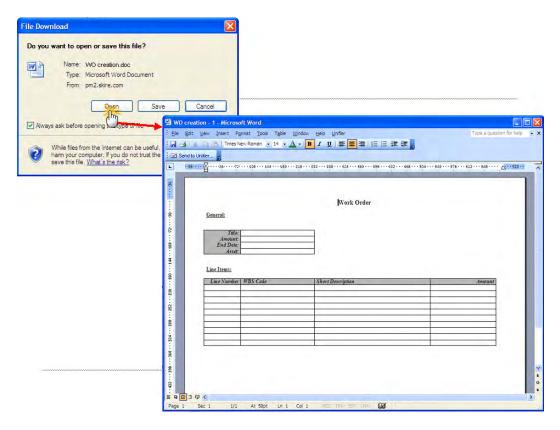
Figure 6-1 Example of a SmartForm template

5   Enter data for the BP record and line items.

>   ***Note:*** *Only lines that contain data are used in BP creation. Unifier ignores blank lines.*
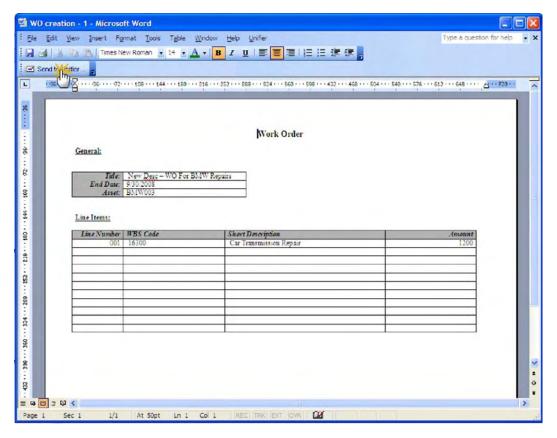
Figure 6-2 Example template with BP data

6   Save the file. When the template is complete, you can upload to Unifier to create the new business process record.

Upload a template to create a business process record

The process of sending the form to Unifier varies depending on the type of BP that you are creating. Refer to the following sections on how to upload your form to Unifier:

- "Upload a project or shell-level workflow business process record"
- "Upload a company-level workflow business process record"
- "Upload a project or shell non-workflow business process record"
- "Upload a company-level non-workflow business process record"

Upload a project or shell-level workflow business process record

Before uploading the SmartForm, create the record using the procedure in "Create a business process record using a SmartForm template" on page 252.

To create a project or shell-level workflow BP using SmartForms

1   Click the **Send to Unifie**r button.

2   Select the shell under which you want to create the record. If you have already sent templates to Unifier using SmartForms, select a shell from the history list (see "Manage shell history" on page 257), or click **Browse** to locate a shell. The Search Shells window opens.

3   In the Search Shells window, Connection Name is the first name in the names maintained in the uClient Configurator. Access other available connection names from the drop-down menu. You can search using the connection name, or narrow the search by entering the shell name and number.

4   Click **Search**. Only the active records for shell types and standard projects to which you have access permission are returned.

5   Select the shell you want to use and click **OK**.

6   Click **Next**.

7   Select a workflow for the BP, if it has multiple workflows.

8   Select the workflow action for the creation step of the BP.

9   Click **Send**. You receive a message if the BP is successfully created, or a list of errors if it could not be created. Unifier creates the new BP record based on the date in the file. The record is progressed in the workflow based on the user-selected action.

You receive a message if the BP is successfully created, or a list of errors if it could not be created. Unifier creates the new BP record based on the date in the file. The record is progressed in the workflow based on the user-selected action. Click **Cancel** to close the popup.

Upload a company-level workflow business process record

Before uploading the SmartForm, create the record using the procedure in "Create a business process record using a SmartForm template" on page 252.

To create a company-level workflow BP using SmartForms

1   Click the **Send to Unifie**r button.

2   In the **Connection Name** drop-down menu, select the connection name with which you want to create the record. If only one connection name is available, it is automatically selected.

3   Click **Next**.

4   Select a workflow for the BP, if it has multiple workflows.

5   Select the workflow action for the creation step of the BP.

6   Click **Send**. You receive a message if the BP is successfully created, or a list of errors if it could not be created. Unifier creates the new BP record based on the date in the file. The record is progressed in the workflow based on the user-selected action.

You receive a message if the BP is successfully created, or a list of errors if it could not be created. Unifier creates the new BP record based on the date in the file. The record is progressed in the workflow based on the user-selected action. Click **Cancel** to close the popup.

Upload a project or shell non-workflow business process record

Before uploading the SmartForm, create the record using the procedure in "Create a business process record using a SmartForm template" on page 252.

To create a project or shell non-workflow BP using SmartForms

1   Click the **Send to Unifie**r button.

2   Select the shell under which you want to create the record. If you have already sent templates to Unifier using SmartForms, select a shell from the history list (see "Manage shell history" on page 257), or click **Browse** to locate a shell. The Search Shells window opens.

3   In the Search Shells window, Connection Name is the first name in the names maintained in the uClient Configurator. Access other available connection names from the drop-down menu. You can search using the connection name, or narrow the search by entering the shell name and number.

4   Click **Search**. Only the active records for shell types and standard projects to which you have access permission are returned.

5   Click **Send**. You receive a message if the BP is successfully created, or a list of errors if it could not be created. Unifier creates the new BP record based on the date in the file. The record is progressed in the workflow based on the user-selected action.

You receive a message if the BP is successfully created, or a list of errors if it could not be created. Unifier creates the new BP record based on the date in the file. The record is progressed in the workflow based on the user-selected action. Click **Cancel** to close the popup.

Upload a company-level non-workflow business process record

Before uploading the SmartForm, create the record using the procedure in "Create a business process record using a SmartForm template" on page 252.

To create a company-level non-workflow BP using SmartForms

1   Click the **Send to Unifie**r button.

2   Select the connection name with which you want to create the record. If only one connection name is available, it is automatically selected.

3   Click **Send**. You receive a message if the BP is successfully created, or a list of errors if it could not be created. Unifier creates the new BP record based on the date in the file. The record is progressed in the workflow based on the user-selected action.

You receive a message if the BP is successfully created, or a list of errors if it could not be created. Unifier creates the new BP record based on the date in the file. The record is progressed in the workflow based on the user-selected action. Click **Cancel** to close the popup.

Manage shell history

The shells to which you have sent SmartForms are maintained in a history list. Rather than having to search for a shell, you can use the history list to quickly find the shell that you want. You can sort the shells in the list by clicking the column headings.

To access shell history

In Microsoft Word, select **Unifier > Manage History**. The most recently used shell is at the top of the list.

To remove a shell from the list

1   In Microsoft Word, select **Unifier > Manage History**.

2   Select a shell in the list and click the **Clear** button, or click **Clear All** to remove all the shells from the History list.

Figure 6-3 Manage History window showing a list of shells

WORKING WITH BUSINESS PROCESSES WITH MULTIPLE LINE ITEM TABS

Unifier supports multiple tabs on BP line items for both workflow and non-workflow BP records. You can create and update in-progress workflow BPs that have multiple line item tabs. This applies to project, shell, and company-level BPs.
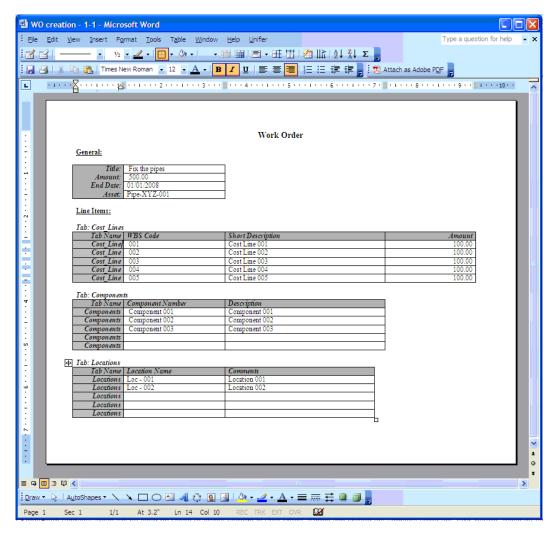
Figure 6-4 SmartForm with multiple tabs

When you send a SmartForm with multiple tabs to Unifier, the record is created in the following manner:

• Based on the tab name columns, lines are created under the proper tab name.

• If only the tab name is present on the line and no other data element is sent, the line in that tab is not created.

Note: *You cannot modify line items for in-progress records using SmartForms.*

UPDATING IN-PROGRESS WORKFLOW BUSINESS PROCESSES USING SMARTFORMS

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Note: *This process applies to in-progress workflow BPs at the project, shell, or company level. You cannot use SmartForms to update non-workflow BPs.*

You can use SmartForm templates to update in-progress workflow BPs. The following steps describe the general process for updating a BP record:

1   When the workflow BP progresses to a specific status, an e-mail notification is sent to the users who are the receivers of the next step. The notification contains a link to download the SmartForm document with the data for the in-progress record.

2   Download the SmartForm template with data.

3   Modify the existing Upper Form data in the template to update the BP. We do not support the update of Line Items with SmartForms.

4   Upload the form to Unifier using the Unifier menu.

Unifier updates the BP record with the data in the SmartForm and progresses the workflow of the record.

Note: *Your company administrator must enable specific workflow steps for you to be able to update a workflow BP using SmartForms.*

Respond to an e-mail notification to update an in-progress workflow BP

To respond to an e-mail notification to update an in-progress BP

1   When you receive an e-mail notification regarding actions that you can take on an in-progress workflow BP, click the **Download the record** link in the e-mail to download the SmartForms template for the specific BP that you are working on.

2   Using Microsoft Word, update the data in the SmartForms template.

   Note: Only upper form information can be updated. You cannot modify line items with SmartForms.

3   When you are done updating the template, click **Send to Unifier**. This sends the SmartForm to Unifier for processing.

4   Click **Next**.

5   Select a workflow for the BP, if it has multiple workflows.

6   Select the applicable workflow action for the next step of the BP.

7   Click **Send**. You receive a message if the BP is successfully created, or a list of errors if it could not be created. Unifier creates the new BP record based on the date in the file. The record is progressed in the workflow based on the user-selected action.

7 COST MANAGER

In this chapter

- *Cost Manager overview*
- *Working with company, program, and project or shell cost sheets*
- *Define the project or shell budget and work with project or shell work packages and worksheets*
- *Working with company accounts sheets*
- *Working with company and project or shell funding sheets*
- *Working with schedule of values sheets and payment applications*
- *Working with company, program and project or shell cash flow sheets and curves*
- *Working with earned value sheets*
- *Working with a Generic Cost Manager*
- *Working with generic cost business processes*

COST MANAGER OVERVIEW

The Cost Manager consists of the following modules and features:

Cost sheets

Project/Shell cost sheet: The project or shell cost sheet is a detailed accounting of the project's or shell's budget and costs. It works much like a spreadsheet within Unifier that calculates and maintains the project or shell cost information stored in the project or shell. The project or shell cost sheet rows contain unique WBS codes (or cost codes), which can be used to link project or shell or program costs to the general ledger for finance. Cost information can be entered manually, pulled from work packages or worksheets, or rolled up automatically from business processes when transactions occur in Unifier.

Program cost sheet: Program cost sheets are created automatically once a project cost sheet has been created in at least one project within the program. The columns of the program cost sheet can be set up to allow cost sheet data to roll up automatically from individual project cost sheets. The program cost sheet will display cost data for all projects within the program that have a status of active or on hold. The currency used is the company base currency. Projects on the program cost sheet are sorted automatically by ascending project number. As new projects are added to the program, and cost sheets are created for them, the new projects will be automatically added to the program cost sheet.

Company cost sheet: The company administrator can create a company-level cost sheet to display cost data across project or shells. Projects or shells on the company cost sheet are added by default as project- or shell-level cost sheets are created. Only active and on-hold projects or shells should be rolled up to a company-level cost sheet. Projects and shells are listed in order by project or shell number in an ascending order. Data rolls up to the company cost sheet columns from individual project or shell cost sheet columns by data source. The data displayed on the program cost sheet is view only.

Work packages: In addition to a project or shell cost sheet, multiple work packages may also be defined. A work package is a group of cost sheet rows that is a subset of the project or shell cost sheet. Work packages provide insight into the budget without providing full access to the details of the project or shell cost sheet.

Worksheets: Cost worksheets can be created to support the project or shell cost sheet. They can be used as sub-cost sheets, enabling specific calculations or data entry in a separate sheet, which can then be rolled up into a defined project or shell cost sheet column. For example, a worksheet can be used to offload complex calculations, which can be rolled up into a single cost sheet column. Worksheets support manual data entry and formulas. Business processes do not roll up to worksheets. Permissions can be controlled for individual worksheets. Worksheets are not independently reportable; however, cost sheet columns that reference worksheets can be reported on.

Funding Manager

Company funding sheets: The company funding sheet tracks all sources of funding across all projects or shells and programs. You create only one sheet per company. Funding sources that are made available at project or shell sheet level are rolled up to the company sheet, which maintains the overall fund information. Once created, the company funding sheet can be edited, but not deleted. The company funding sheet must be created before creating individual project or shell funding sheets.

Project/Shell funding sheets: The project or shell funding sheet tracks how funding is being allocated and consumed at the project or shell level. Project or shell fund sheets work in conjunction with the company funding sheet. Allocating funding sources at project or shell level can be done manually or through a business process. A funding template and company funding sheet must be complete before you can create a project or shell funding sheet.

Cash flow

The cash flow feature enables you to baseline projected spending, track actual costs, calculate future spending based on a known forecast (extrapolate), or calculate from trends compared to baseline curves (interpolate). You can create cash flow sheets to calculate and maintain detailed cash flow information and generate cash flow curves.

Earned value

The earned value module provides quantitative tracking information about project or shell status using earned value analysis. It provides specific numerical measurements for reviewing progress as the project or shell team advances through the work tasks allotted to the project or shell schedule. The module helps project or shell managers track whether projects or shells are on schedule and on budget. It provides accurate and consistent methods to estimate the percent of budget spent, percent of work done, and percent of time elapsed.

Schedule of values

The schedule of values (SOV) module provides a way to assemble information from contract, change order and invoice/payment business processes into an SOV sheet, streamlining the process of invoicing for completed phases of a project or shell. SOV functionality is available with uDesigner-created cost BPs for which the Allow creation of Schedule of Values option is defined. The business processes can be designed to create an SOV sheet automatically upon reaching the designated step. There are two types of SOV sheets: general and payment applications.

Generic Cost Manager

The Generic Cost Manager captures cost-related activities for a generic shell. These include costs like:

• Rent
• Lease payments
• Landscape care
• Building maintenance and repair
• Remodel of building interiors

With this manager, you can capture and view cost transaction information based on a timescale, such as quarterly or yearly. Each shell can have one Generic Cost Manager. The Generic Cost Manager uses specific generic cost BPs as a data source.

About Cost Managers and Unifier functional areas

The standard Cost Manager and the Generic Cost Manager work with different areas of Unifier. This table lists the areas and the indicates which cost manager works with each area.

Cost Manager	Company	Program	Project (Standard)	Shell (WBS)	Shell (Generic)
Cost Manager (standard WBS)	X	X	X	X	
Generic Cost Manager					X

The cost data from Project (Standard) and Shell (WBS) can both roll up to the Company level. The cost data from Shell (Generic) does not roll up to Company Level.

WORKING WITH COST SHEETS

This section discusses how to work with company, program, and project or shell cost sheets, work packages, and worksheets.

WORKING WITH PROJECT OR SHELL COST SHEETS

The following procedures discuss how to open and work with project or shell cost sheets.

Open a project or shell cost sheet

To open a project or shell cost sheet

1   In the Navigator in User Mode, open the project or shell.

2   Click on **Cost Manager**, then on **Cost Sheet**. The Cost Sheet log opens.

3   The project or shell cost sheet will be displayed in bold font in the log. Select the project or shell cost sheet from the log and click **Open**. The Project or Shell Cost Sheet opens.
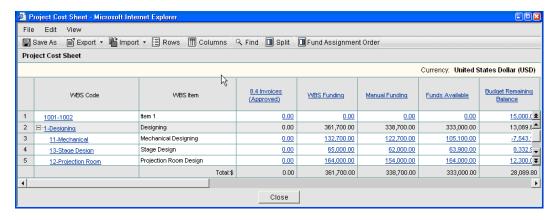
Figure 7-1 Example cost sheet

This item	Does this
Save As	Click this button to save a snapshot copy of the cost sheet.
Export	Click and select one of the following: • Summary Cost Sheet • Summary Budget • WBS Details • Column Details
Import	Click and select one of the following: • Summary Budget • WBS Details • Column Details
Rows	Opens the Rows window, from which you can add or manage rows.
Columns	Opens the Columns log, from which you can add or manage cost sheet columns, or assign access restrictions.

Find	Click to search for a cost code.
Split	Splits the window vertically so you can scroll through the columns while maintaining a view of the WBS code.
Fund Assignment Order	Opens the Fund Assignment window (if the Funding Manager is used). Allows you to set the project or shell fund assignment order at the WBS level.
Cost Sheet cells	Click on a cell to view the Cell Details window.
WBS Code	Click on the WBS code name to open the WBS Detail window.
Column Heading	Click on a column heading to view more information about the column type.
File Menu > Open	Opens the Snapshot log.
File > Properties	Opens the Properties window.
Edit Menu > Budget Distribution	Opens the Budget Distribution window, in which you can manage the budget or lock/unlock the budget.
Edit Menu > Copy > Column Data	Copy data from one column to another, from one or multiple rows.
View Menu > Currency	Click and select the display currency in which to display the cost sheet data.
View Menu > Audit Log	Opens the Audit log for the cost sheet.
View Menu > Expand	Expands all WBS codes. There is also an Expand button.
View Menu > Collapse	Collapses all WBS codes. There is also a Collapse button.

Types of cost sheet data entry

Cost sheet cells can be populated with data in the following ways, depending on how the column has been set up:

Manual entry: Your cost sheet may include some columns in which you can enter data through line items or directly into a cell. Line items can be added manually by copying data from an existing line item within the cell or from copying existing line item data from one column to another.

Business processes: Cost sheet data can also be rolled up automatically when cost-type business processes reach a specified status. For example, when a purchase order is approved, the amount can be rolled up to the appropriate column and WBS codes.

Formulas: Cell data is calculated from other column entries based on a formula defined for the column. The formula may include data from other columns.

Budget: Information from the project or shell budget can be rolled up to budget columns. This data is entered in the Budget window.

Worksheet: Data can be entered into worksheets and rolled up to cost sheet columns.

The following sections discuss how to view, enter, and manage cost sheet data and budget information.

ENTERING DATA INTO A COST SHEET

Add a line item to a project or shell cost sheet

A cost sheet column may be defined for manual data entry, depending on the column definition:

- **Manual, line item content:** The data is entered in a line item format, allowing multiple line item entries per cell. The total is displayed in the cell.
- **Manual, direct entry:** Numeric values are entered directly into the cell.

To add a line item to a project or shell cost sheet

1   From the project or shell Cost Sheet window, click the link in the line item cell. The Cell Detail window opens.

2   Click the **Add** button. The Line Item window opens.

3   Complete the Line Item window as described in the following table.

4   Click **OK**. The new line item will be added to the Cell Detail window.

Note: *For budget-related columns (for example, Assigned Budget), you can enter line item data as long as the undistributed balance is at least as large as the line item amount. The undistributed balance will adjust as line items are added, displaying the budget amount left.*
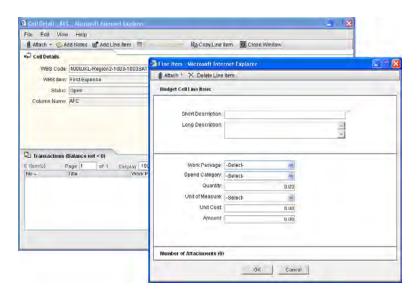
Figure 7-2 Cost Sheet Line Item window

In this field	Do this
Short Description	This description will appear on the Cell Detail window.
Long Description	Optional, to provide more information.
Work Package	Select a work package, if any, with which to associate the line item.
Spend Category	Select a spend category if this has been set up to be tracked.
Quantity	Enter a quantity (at least 1) as applicable.
Unit of Measure	Select the appropriate choice from the list.
Unit Cost	Enter this manually.
Amount	Automatically calculated as Quantity X Unit Cost.
Attach	This button allows you to attach a file to the line item.
Delete Line Item	Click this button to delete the line item from the Cell Detail window.
Number of Attachments	This link displays the number of file attachments, if any, and provides access to any attached files.

To add a line item cost entry by copying an existing line item

1   In the project or shell Cost Sheet window, click the link in the line item cell. The Cell Detail window opens. Any existing line items will be listed in the lower portion of the window.

2   Select the line item to copy and click the **Copy Line Item** button. The Line Item window opens with the original line item entry information filled in.

3   You may make changes as necessary for the new entry, or leave as is to make an exact copy of the original line item.

4   Click **OK**. The new line item will be added to the Cell Detail window.

Enter data directly into a cell

Some manual entry cells are configured for direct entry, rather than line item entry. Data entry cells do not have links.

To enter data into direct entry cells

1   Click inside the cell. The cell becomes editable.

2   Enter the numeric value directly into the cell.

Copy data from one column to another

You can copy the data from any manual entry column to another.

To add line items by copying existing data from one column to another

1   In the project or shell Cost Sheet window, click the **Edit** menu and choose **Copy > Column Data**. The Copy Column Data window opens.

2   Complete the Copy Column Data window as described in the following table.

3   Click **Copy**. The data in the first column will be copied into the second column.
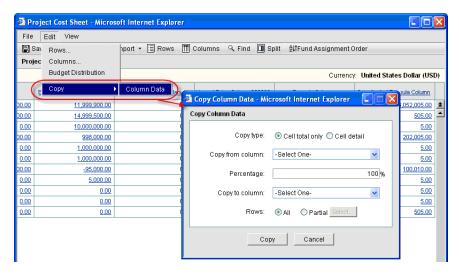
Figure 7-3 Copy Column Data

In this field	Do this
Copy type	Choose one of the following: • Cell total only: Copies the total value displayed in the cell. The new line item will be labeled as "Copy of *original column name*," ignoring quantity and unit cost. • Cell detail: Copies all cell detail information from the original line item.
Copy from column	From the drop-down list, select the column to copy. Only line item entry columns will be listed.
Percentage	You may enter a percentage value to copy. For example, if you choose 10%, then 10% of the value of the original column value will be copied into the new column.
Copy to column	From the drop-down list, select the column into which you want the line items copied
Rows	Choose one of the following from which you want to copy the values: • All: To copy values to all of the rows. • Partial: To copy the values of selected rows only. Click the **Select** button to choose the rows to copy.

View column properties

To view column properties

Click the column heading. All column headings except the first two (WBS Details and WBS Item) are hyperlinks that open the View Column window. The window shows information about the column, such as the data source, entry method or formula, data format, and format of the last total row.

Split cost sheet window

When working with a cost sheet with many columns, it can be useful to split the window. You can use the Split and Freeze toggle buttons to scroll through the columns in the right half of the window, while maintaining a view of the WBS Code and WBS Item columns in the left half.

To display the cost sheet in split window mode

1   In the project or shell Cost Sheet window, click the **Split** button. The Cost Sheet window is split into two sections.

2   You can click on the vertical split line and move it horizontally to adjust the size of the panes, if desired.

3   Use the scroll bars at the bottom of the window to scroll horizontally through the columns. When you have the left portion of the window in the position you want (for example, to view the WBS Code or WBS Item column), click the **Freeze** button to lock it in place.

4   Scroll through the columns in the right half of the window to view or enter data as necessary.

5   You can click **Freeze** again to unlock the left half, or click **Split** again to restore the window.
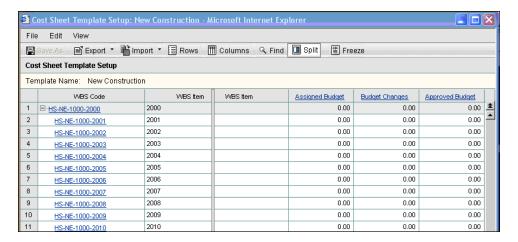
Figure 7-4 Cost Sheet window in split mode

Change cost sheet currency

You can view cost sheet data in the company base currency or the project or shell currency, which may differ.

Note: This is also applicable to work packages and worksheets.

To choose the display currency on a cost sheet or worksheet

1 Open the project or shell Cost Sheet or worksheet window.

2 From the Edit menu, click **Currency** and choose the currency from the list.

To choose the display currency on a work package

1 Open the work package window.

2 Click the currency drop-down list in the upper right corner of the sheet and choose the currency from the list.

Expand or collapse WBS codes

You can expand or collapse all WBS codes in a cost sheet. If you have a large number of WBS codes in a tree structure, you can expand that structure to view all of the WBS codes at once.

To expand or collapse WBS codes in a cost sheet

1 Open the project or shell Cost Sheet or worksheet window.

2 Click **View > Expand** to expand all of the WBS codes in the cost sheet. **Click View > Collapse** to collapse all of the WBS codes in the cost sheet. Alternatively, you can click the **Expand** and **Collapse** buttons.

Figure 7-5 Expand or collapse WBS codes

View cost sheet cell details

The values displayed in a cost sheet cell may reflect information from multiple line items, business process transactions, or results of a calculation from other cells. The following procedures discuss how to view the details about an entry in a cost sheet cell.

To open the Cell Detail window
From the project or shell Cost Sheet window, click the link in the line item cell. The Cell Detail window opens.

To view manual line item entry details
From the Cell Detail window, double-click a listed line item. The Line Item window opens.

To view business process transaction details

1 From the Cell Detail window, double-click a listed line item. A view-only copy of the business process transaction opens.

2 Double-click a BP line item. The BP's Line Item window opens.

To view formula cell details

1 In the Cell Detail window, if line items from manual entry columns or BP transaction columns are included in the calculation, they will be listed in the lower portion of the window, with the calculated value for each line item.

2 Click a listed line item. If the line item is a BP transaction, the BP form opens. If the line item is a manual entry, the Line Item window opens.

3 To view the formula used for the column, click the **Formula** link.

To view budget cell details
The Cell Detail window displays as line items information generated from the budget, as applicable. Typical budget columns include assigned budget. The undistributed balance amount will be displayed as a line item. You may add line items if the undistributed balance is at least as large as the line item amount.
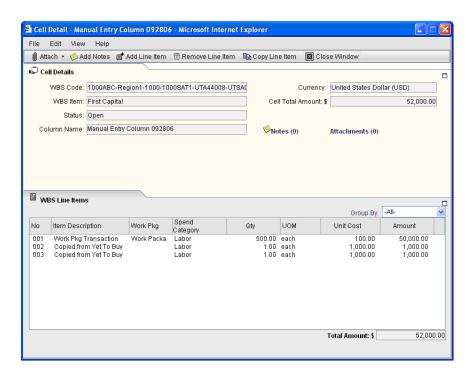
Figure 7-6 The Cell Detail window

This item	Does this
Attach	Allows you to attach files to the cell from your local machine (My Computer) or from the Document Manager (Unifier folder). You can view existing file attachments by clicking the **Attachments** link in the upper portion of the window.
Add Notes	Click to add a note to the cell. You can view existing notes by clicking the **Notes** link in the upper portion of the window.
Add	Click to add a line item (transaction) to the cost sheet (applicable for manual transaction columns).
Remove	Allows you to remove a selected line item.
Copy	Adds a line item by copying an existing one.
View Menu > Audit Log	Opens the Audit Log for the cell.

Add notes or attachments to a cell

You can add notes or attach files to any cell in the cost sheet. Files can be uploaded from your local environment (My Computer) or from the Document Manager (Unifier folder).

To access cell detail notes and attachments

1   In the Cost Sheet window, click in any cell that displays as a link (line item entry, formula, or automatic entry from a BP). The Cell Detail window opens.

2   You can add a note, view existing notes, add a file attachment, or view attached files.

S k i r e ,   I n c .   C o n f i d e n t i a l

To add notes to a cell

1   In the Cell Detail window, click **Add Notes**. The Add Notes window opens.

2   Type the note in the text box and click **OK**. Each time you add a new note, the Notes counter in the Cell Detail window updates to reflect the number of notes that exist for the cell.

To view notes attached to a cell

1   If any notes have been added to the cell, the Notes link on the Cell Detail window will display the number of notes.

2   Click the **Notes** link. The Notes List opens, displaying all of the notes that have been added. Each note displays the user who added the note, and the date and time it was added.

To modify or delete cell detail notes
Notes added to a cost sheet cell cannot be modified or deleted.

To attach files to a cell
In the Cell Detail window, click **Attach** and choose:

- **My Computer** to attach the file from your local system. The procedure is the same as for uploading files to the Document Manager, and depends on your file transfer option. (See "Uploading Files" on page 510).
- **Unifier Folder** to attach documents from the Document Manager. The window opens, displaying the project or shell documents files and folders. Select the files and folders to attach and click **OK**.

    Note: *Folders are not attached. The contents of selected folders are attached in a flat list. Documents with duplicate file names will not attach.*

To view attached files

1   If any files have been attached to the cell, the Attachments link on the Cell Detail window will display the number of attached files.

2   Click the **Attachments** link. The Attachments window opens.

3   Choose a file and click **Open**. The document will open in the viewer selected in your user preferences.

To delete an attached file

1   In the Cell Detail window, click the **Attachments** link to open the Attachments window.

2   Select the file to be deleted, then click the **Delete** button.

To download a copy of an attached file

1   In the Cell Detail window, click the **Attachments** link to open the Attachments window.

2   Select the file to be downloaded and click **Download**.

3   Browse to a location on your local system and click **OK**. Click **Yes** to confirm.

Search for WBS codes (rows)

You can search for a particular cost code by searching for one or multiple segments.

To search for a cost code

1   In the Cost Sheet window, click **Find**. The Cost Code Find window opens.

2   Select the cost code segments you want to search by and click **OK**.
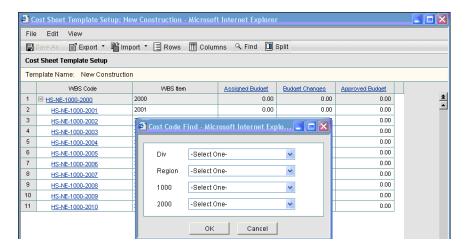
Figure 7-7 Find cost codes

The results will be shown in a separate cost sheet window. The new window also has split capability so that you can keep the WBS code in view and scroll through the columns.

Edit cost sheet data

The following procedures discuss how to modify cost sheet data. Manually entered cost sheet data can be edited or modified directly from the cost sheet (assuming you have modify permissions).

Cost sheet entries rolled up from transaction BPs or calculated in formula columns are not editable. Data rolled up through business processes can only be modified by submitting business processes such as change orders. Formula column cells will reflect changes made to other column data used in the calculations.

To edit direct entry data

1   In the project or shell Cost Sheet window, click inside the cell to edit. The cell becomes editable.

2   Enter the new value.

To edit line item data

1   In the project or shell Cost Sheet window, click the link in the cell to edit. The Cell Detail window opens. Line items are listed in the lower portion of the window.

2   Double-click the line item to edit. The Line Item window opens.

3   Edit the Line Item window as needed.

4   Click **OK** to save changes and close the Line Item window.

To delete a line item

1   From the project or shell Cost Sheet window, click the link in the cell in which to delete the line item. The Cell Detail window opens.

2   Do one of the following:
    • Select the line item to delete, then click **Remove**. The line item is deleted.
    • Double-click the line item to open the Line Item window. Click the **Delete** button.

3   Click **Yes** to confirm.

To edit or delete data rolled up from a business process
Cost sheet data originating from a business process cannot be edited from the cost sheet.

Data must be edited in the business process record if it is still active or through an appropriate change BP, such as a change order.

To edit or delete data calculated in a formula column
Formula column cells will reflect changes made to other column data used in the calculations. Click the column heading to view the formula and display the cost sheet columns used in the calculation. This will help you determine whether to edit the formula, the data on another column, or other source.

Save or view cost snapshots

You can save a snapshot or a read-only view of the project or shell cost sheet and worksheets. Snapshots cannot be deleted.

To save a snapshot of the cost sheet or worksheet

1   Open the cost sheet or work sheet.

2   Click the **Save As** button. The Save As Snapshot window opens.

3   Enter a title and click **OK**.
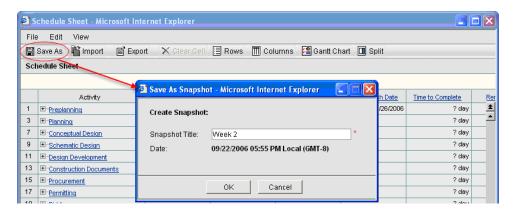
Figure 7-8 Save a snapshot of the cost sheet

To view the snapshot

1   Open the cost sheet, work package, or worksheet.

2   Click the **File** menu and choose **Open**. The Snapshot Log window opens, displaying the list of snapshots.

3   Select a snapshot and click **Open**. A non-editable view of the cost sheet or worksheet opens, displaying the sheet at the time the snapshot was taken.

IMPORTING AND EXPORTING COST SHEET DATA

Export project or shell cost sheet data

Once you have constructed the cost sheet and distributed the budget, you can export specific cost sheet information, saving it to a local file system in a comma-separated-value (CSV) format.

To export project or shell cost sheet data

1   In the project or shell cost sheet, click the **Export** button and then choose one of the following:

   • **Summary Cost Sheet:** Creates a summary of all rows, columns, and data on the cost sheet.

   • **Summary Budget:** Creates a summary of the budget window information.

   • **WBS Details:** Lists all of the WBS codes on the cost sheet and the WBS details information for each.

   • **Column Details:** Creates a summary of column details for the selected column (formula and manual entry columns only).

The Summary Cost Sheet option only supports saving the structure for reference purposes. The other three exported files can be modified and then imported into a new or existing project or shell cost sheet.

2   Read the confirmation message and then click **Yes** to continue.

3 You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.

4 Click **Save** and specify the location in which to save the CSV file.

> *Note:* *If you open the CSV file, you will see that it contains notes regarding modifying the columns and data in the exported file for reimporting into a cost sheet. Follow the notes embedded in the CSV file for modifying columns and data in the exported file.*
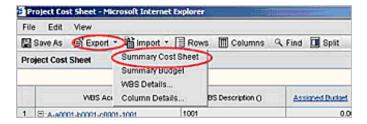
Figure 7-9 Export to a summary cost sheet
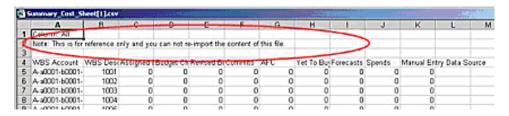
Figure 7-10 Summary Cost Sheet

Import project or shell cost sheet data

You can import WBS detail information into a cost sheet manual entry column from a comma-delimited-value (CSV) file, such as a Microsoft Excel spreadsheet saved in CSV format.

To import project or shell cost sheet information

1 In the project or shell cost sheet, click the **Import** button and then choose one of the following:

- **Summary Budget:** Summarizes the budget information.
- **WBS Details:** Lists WBS codes and WBS details information for each.
- **Column Details:** Summarizes column details for specific columns (formula and manual entry columns only).

2 Browse to the CSV file to import, select it, and click **OK**.

Note the following:

Import Option	Rules
Summary Budget	The following rules apply when importing into the cost sheet: • Negative numbers are not allowed for budget distribution amount. • New WBS codes cannot be imported. • There is no check on import whether the total capital or expense budget was exceeded. • After the import is completed, return to the Budget Distribution page and save and lock the budget. Once the budget is locked, the system performs the necessary check to determine if the total capital or expense budget has exceeded the original budget.
WBS Details	The following rules apply to the WBS details when importing into the cost sheet: • WBS details are updated, and new, valid WBS details are added in the order specified in the CSV file. • The complete WBS code, including the parent code, must be valid and in the correct order in the CSV file. • New WBS codes cannot be imported.
Column Details	The following rules apply to the column details when importing into the cost sheet: • This selection adds a column to the cost sheet and is usually done as part of the administration of the cost sheet. • For the Assigned Budget (or Budget Remaining Balance) column and Manual Entry column, all of the existing budget line items are deleted and replaced with the new budget line items defined in the CSV file, even if the CSV file only provides a partial list of WBS codes. • Values in the Distributed Budget column are for reference only.

DEFINING THE BUDGET

Once the project or shell cost sheet is defined, you can define the project or shell capital and expense budget amounts and begin distributing the budget to the various WBS accounts. Budgets are managed in the Budget Distribution window.

Note: *Users with module-level modify permission can lock and unlock the budget distribution. An exception to this is if Assigned Budget is one of the cost sheet columns, and the user has view restrictions on the column. If a user cannot view the Assigned Budget column, the Budget Distribution menu option is not available. In addition, the user cannot import a summary budget.*

About budget and budget distribution

Once the project or shell cost sheet is defined, you can define the project or shell capital and expense budget amounts and begin distributing the budget to the various WBS accounts. Budgets are managed in the Budget Distribution window.

Note: *Users with module-level modify permission can lock and unlock the budget distribution. An exception to this is if Assigned Budget is one of the cost sheet columns, and the user has view restrictions on the column. If a user cannot view the Assigned Budget column, the Budget Distribution menu option is not available. In addition, the user cannot import a summary budget.*

Open the Budget Distribution window

To open the Budget Distribution window

1 Open the project or shell cost sheet.

2 Click the **Edit** menu and select **Budget Distribution**. The Budget Distribution window opens.

3 Enter budget information as necessary. Click **OK** to save and exit.
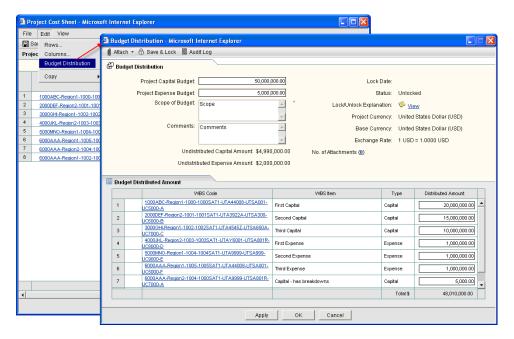
Figure 7-11 Budget Distribution window

Item	Description
Project or Shell Capital Budget	
Project or Shell Expense Budget	
Scope of Budget	
Comments	A text field for any budget-related comments.
Undistributed Capital Amount	
Undistributed Expense Amount	
Lock Date	If the budget is currently locked, the lock date displays.
Status	Shows if the budget is currently locked or unlocked.
Lock/Unlock Explanation (View)	Click the **View** link to open an audit log that lists the dates, times, and explanations for lock and unlock budget instances.
Project or Shell Currency	Displays the currency used in the project or shell. This may differ from the base currency.
Base Currency	Displays the base currency used for your company.

Exchange Rate	This is the calculation that is used to convert the base currency to the project or shell currency.
No. of Attachments	Displays the number of files, if any, attached to the budget window. Click on the link to view or download.
Budget Distributed Amount	The lower part of the window displays each WBS code row that appears on the cost sheet. Enter the budget amount for each one. Clicking on a WBS code link will open the WBS Details window.
Attach	Click this button to attach files to the budget distribution window.
Save & Lock	This button is available if the budget is currently unlocked. Clicking it locks and distributes the budget. You will be prompted to provide an explanation for this action.
Unlock	This button is available if the budget is currently locked. Clicking it unlocks the budget to allow for modification to the budget window and cost sheet rows. You will be prompted to provide an explanation for this action.
Audit Log	This button accesses the audit log, which records budget activity.

Distribute and lock the budget

Once the Budget Distribution window has been completed, you can distribute the budget and lock the budget.

To distribute and lock the budget

1   Complete the Budget Distribution window.

2   Click **Apply** to save changes.

3   Click **Save & Lock**.

4   When prompted, enter an explanation for locking the budget, then click **OK**.

5   Click **Close** to close the Budget Distribution window.

Unlock the budget

If the budget has been locked, you must unlock it to make any budget changes or certain cost sheet modifications, such as adding or modifying cost sheet rows.

To unlock the budget

1   From the Budget Distribution window, click the **Unlock** button.

2   When prompted, enter an explanation for unlocking the budget, then click **OK**.

3   You can make edits to the budget or cost sheet as needed, then save and lock the budget again.

Permission matrix for the Budget Distribution window

Assigned Budget			Budget Distribution				Import Summary Budget
Not Added	Added		Lock	Unlock	View	Edit	
X	X		Yes	Yes	Yes	Yes	Yes
	Restrictions (View)	Restrictions (Edit)					
	Yes		No	No	Yes	No	No
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	No		No	No	No	No	No

MANAGING PROJECT OR SHELL COST SHEETS

Edit cost sheet structure

See the *Unifier Administration Guide* for information about adding or editing rows and columns on a cost sheet.

View cost sheet properties

To open the cost sheet Properties window

1   In the project or shell Cost Sheet window, click **Edit** and choose **Properties**, or click the **Properties** button. The Properties window opens.

2   Click the tabs to view properties information. These properties are not editable in the project or shell cost sheet. Cost sheet properties include the name, description, structure definition (flat or tree), WBS code, WBS item titles, and switches for forecast details and forecast inclusion functionality.

WORKING WITH WORK PACKAGES

A work package is a group of cost sheet rows that is a subset of the project or shell cost sheet. Work packages display view-only data taken directly from the project or shell cost sheet and is not editable in the Work Package window. Data must be edited in the project or shell Cost Sheet window.

Create a work package

The following procedure discusses how to create a work package.

Note: *Once a work package has been created, it cannot be deleted.*

To create a work package

1   In the Navigator in User Mode, open the project or shell.

2   Click **Cost Manager**, and then **Cost Sheet**. The Cost Sheet log opens.

3   Click the **New** button. The Work Package Properties window opens.

4   You can attach files to the work package by clicking the **Attach** button.

5   Complete the Work Package Properties window and click **OK**.
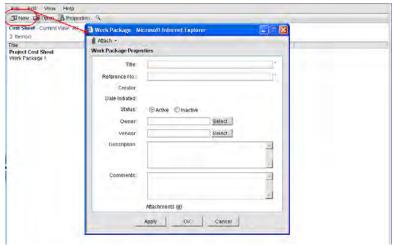
Figure 7-12 Work Package Properties window

In this field	Do this
Title	Enter a title, which displays in the log.
Reference No.	Enter a unique reference number.
Creator	This will be populated automatically with the name of the user creating the work package.
Date Initiated	This is populated automatically with the initiated date.
Status	Select **Active** or **Inactive**.
Owner	
Vendor	
Description	You may enter a description of the work package here.
Comments	Allows for any additional comments.
Attach	Click this button to attach files to the work package.
No. of Attachments	This link displays the number of files, if any, attached to the work package. Click on the link to view or download.

Open a work package

To open a work package

1   In the Navigator in User Mode, open the project or shell.

2   Click **Cost Manager**, and then **Cost Sheet**. The Cost Sheet log opens.

3   Work packages are listed in the log in regular (not bold) font. Select a work package from the log and click **Open**. The Work Package opens.

Note: *Like cost sheets, you can click the **Split** button to split the window to scroll through the columns while maintaining the WBS code in view. A summary of the work package data can be exported into a CSV file from this window.*

Change work package currency

You can view work packages in the company base currency or the project currency, which may differ.

To choose the currency in which to display the work package data
Open the Work Package window. In the upper right corner of the window, click the **Currency** drop-down list and choose the currency.

View work package properties

To open the Work Package Properties window
From the project or shell Cost Sheet log, select the work package and click the **Properties** button. The Properties window opens.

Export work package data

You can save summary work package data to a local file system in a CSV format.

To export work package data

1   From the Work Package window, click the **Export** button.

2   Read the confirmation message and then click **Yes** to continue.

3   You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.

4   Click **Save** and specify the location in which to save the CSV file.

WORKING WITH WORKSHEETS

About worksheets

Worksheets are extensions of the cost sheet. They can be used as subcost sheets, enabling specific calculations or data entry in a separate sheet, which can then be rolled up into a defined project or shell cost sheet column. The rows equal the WBS codes on the cost sheet. Worksheets can have multiple columns for data entry or formula calculations, but do not support data rolled up from business processes.

Example uses of a worksheet:

• A worksheet can be used to off-load complex calculations requiring multiple columns. The final value can be rolled up into a single cost sheet column.

• Worksheets are governed by individual permissions. You can design worksheets to use as a method of data entry or review for users that you do not want to have any access to the project or shell cost sheet, for example, a contractor who is developing an estimate.

A cost sheet column can be associated with a worksheet as the data entry method. A worksheet column can also be associated with another worksheet, as long as there is not a circular reference. There can be multiple worksheets in a project or shell.

A worksheet template can be created in Administration Mode. Permissions can be controlled for individual worksheets. Worksheets are not independently reportable; however, cost sheet columns that reference worksheets can be reported on.

Create a worksheet

You can create a worksheet by copying a worksheet template or copying a worksheet from another project or shell.

To create a worksheet from a template

1   In User Mode, select **Cost Manager > Cost Sheet**. The Cost Sheet log opens.

2   Click **New** and select **Worksheet > Copy from Template**. The Copy from Template window opens.

3   Select the template to copy and click **OK**. The worksheet appears in the log.

To create a worksheet from a another project or shell worksheet

1   In User Mode, select **Cost Manager > Cost Sheet**. The Cost Sheet log opens.

2   Click **New** and select **Worksheet > Copy from Project** or **Copy from Shell**. The Copy from Project or Shell window opens. The window lists each worksheet in each project or shell. If there are multiple worksheets in a project or shell, each will be listed separately.

3   Select the project or shell worksheet to copy and click **OK**. The worksheet appears in the log.
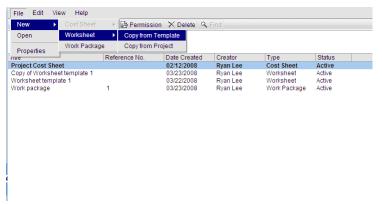
Figure 7-13 Copy a worksheet from a template

You can add manual-entry or formula columns to a worksheet. Rows are created automatically from the WBS codes in the cost sheet.

Open a worksheet

To open a worksheet directly from the log
In User Mode, select **Cost Manager > Cost Sheet**. The Cost Sheet log opens. Select the worksheet from the log and click **Open**.

To open a worksheet from the cost sheet
Click on cost sheet column data that refers to a worksheet as data entry.

Adding a column to a worksheet is similar to adding a column to the cost sheet. You can add manual-entry (direct or line item) columns or formula columns. You can also add columns that reference other worksheets. This allows interaction between worksheets.

The available data sources are Project Worksheet Cost 1 through 50.

To add a column

1   Open the worksheet and click the **Columns** button. The Columns Log opens.

2   Click **New**. The Column Properties window opens.

3   Complete the column properties as usual for a column.

    If you are creating a formula, the data sources that are available for the formula are limited to the other columns on the worksheet.

4   Complete the window and click **OK**.

Add a worksheet column to the cost sheet

You can roll up the data from a worksheet column into a project or shell cost sheet column. Details about adding columns are in the Cost Manager Setup chapter in the *Unifier Administration Guide*.

To add a worksheet column to the cost sheet

1   In the cost sheet, click **Columns**, then click **New**. The Column Properties window opens.

2   In the **Datasource** column, choose any of the project or shell cost data sources Project Cost 1 through Project Cost 25.

3   For Entry Method, choose **Worksheet**.

4   Choose the worksheet (name), and then the column within the worksheet.

5   Complete the rest of the Properties window and click **OK**.

Assign permissions to the worksheet

You can configure the permission settings for each worksheet, allowing you to control access to each worksheet individually. The owner of the worksheet is granted permission to access and modify it automatically. The owner must grant permissions for other users or groups to access a worksheet.

To assign permissions to a worksheet

1   In User Mode, navigate to **Cost Manager > Cost Sheet**. The Cost Sheet log opens.

2   Select the worksheet and click the **Permission** button. The Edit Permissions window opens.

3   Click the **Add** button and select the users or groups to grant access. In the User Picker, select users or groups, click **Add** and then click **OK**. The user or group is added to the upper portion of the Edit Permissions window.

4   By default, each listed user or group will be granted view permission, allowing them to open the worksheet. To grant additional permissions, select the user or group and select the permissions:

   • **Modify Permission:** Allows user to control the worksheet's permission settings.

   • **Edit:** User can import worksheet information, save a snapshot, edit worksheet properties (name and description), and add columns.

5   Click **OK**.

Import worksheet column details

You can only import data into columns that are defined as manual data entry.

To import column details

1   Click **File > Import > Column Details**, or click the **Import** button and choose **Column Details**. The Select Column window opens.

2   Select the column and click **OK**.

Export worksheet details

This will allow the user to export details of the worksheet. The following options are available under Export:

   • **Summary Worksheet:** This option will export the entire worksheet similar to cost sheets.

   • **Column Details:** You can only export data from manual data-entry columns.

To export a summary worksheet
Click **File > Export > Summary Worksheet**, or click the **Export** button and choose **Summary Worksheet**.
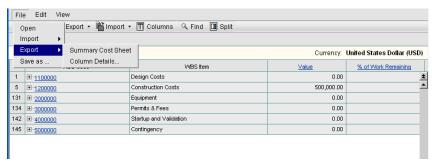
Figure 7-14 Export a summary worksheet

View or edit worksheet properties

To view or edit worksheet properties

1 Click **File > Properties**. The Properties window opens.

2 You can change the name of the worksheet.

WORKING WITH THE PROGRAM COST SHEET

The following sections describe how to open a program cost sheet, search for listed project or shell cost sheets, and import and export cost sheet information.

Data rolls up to the program cost sheet columns from individual project or shell cost sheet columns by data source. The data displayed on the program cost sheet is view only.

Open the program cost sheet

To open a program cost sheet

1 In the Navigator in User Mode, open the program.

2 Click on **Cost Manager**, and then on **Cost Sheet**. The Cost Sheet log opens.

3 Select the program cost sheet from the log and click **Open**. The Program Cost Sheet opens.

Like project or shell cost sheets, you can click the **Split** button to split the window to scroll through the columns while maintaining the WBS code in view. A summary of the work package data can be exported into a CSV file from this window.
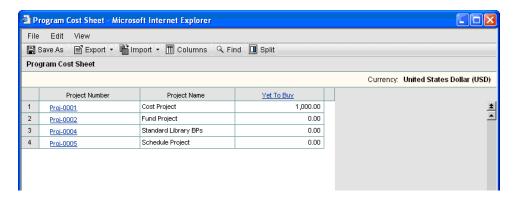
Figure 7-15 Example Program Cost Sheet

This item	Does this
Save As	Click this button to save a snapshot copy of the cost sheet.
Export	Click and select one of the following: • Summary Cost Sheet • Column Details
Import	Imports column details.

Columns	Opens the Columns log, from which you can add or manage cost sheet columns.
Find	Click to search for a cost code.
Split	Splits the window vertically so you can scroll through the columns while maintaining a view of the project or shell number.
Cost Sheet cells	Click on a cell to view the Cell Details window.
Project or Shell Number	Click on the project or shell number to open the project or shell cost sheet.
Column Heading	Click on a column heading to view more information about the column type.
File Menu > Open	Opens the Snapshot log.

Search for project or shells (rows)

You can search for projects or shells by project or shell type and project or shell site. A new Program Cost window will open, displaying only those project or shells meeting the search criteria.

To search for a project or shell

1   In the Program Cost Sheet window, click **Find**. The Search window opens.

2   Select the search criteria and click **OK**.

Export program cost sheet data

To export program-level cost sheet data

1   In the program cost sheet, click the **Export** button and then choose one of the following:
   • **Summary Cost Sheet:** This allows you to export complete cost sheet information, including project or shell name, number, and data from all columns.
   • **Column Details:** This exports only Program Cost 1 to Program Cost 25 logical data sources that are configured as manual entry. Click **Column Details** to open the Select Column window and select the columns to export.

2   Read the confirmation message and then click **Yes** to continue.

3   You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.

4   Click **Save** and specify the location in which to save the CSV file.

Import program cost sheet data

You can import manual entry columns into the Cost Sheet from a comma-delimited (CSV) file (such as a Microsoft Excel spreadsheet saved in CSV format.)

To import program cost sheet information

1   From the program cost sheet, click the **Import** button then choose **Column Details**.

2   Browse to the CSV file to import, select it, and click **OK**.

WORKING WITH THE COMPANY COST SHEET

Open the company cost sheet

To open a company cost sheet

1 In the Navigator in User Mode, open the company.

2 Click on **Cost Manager**, and then on **Cost Sheet**. The Cost Sheet log opens.

3 Select the company cost sheet from the log and click **Open**. The Company Cost Sheet opens.

> **Note:** *Like project or shell cost sheets, you can click the **Split** button to split the window to scroll through the columns while maintaining the WBS code in view. You can also click a cell to view the Cell Details window, or click a row (project or shell number) to open the project or shell cost sheet.*
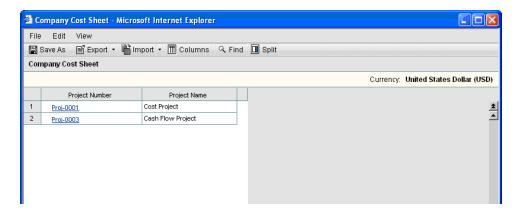
Figure 7-16 Example Company Cost Sheet

Search for project or shells (rows)

You can search for projects or shells by project or shell type and project or shell site. A new Company Cost window will open, displaying only those project or shells meeting the search criteria.

To search for a project or shell

1 In the Company Cost Sheet window, click **Find**. The Search window opens.

2 Select the search criteria and click **OK**.

Export company cost sheet data

You can export summary cost data and column details into a CSV file.

To export company-level cost sheet data

1   From the company cost sheet, click the **Export** button and then choose one of the following:

    - **Summary Cost Sheet:** This allows you to export complete cost sheet information, including project or shell name, number, and data from all columns.

    - **Column Details:** This exports only Company Cost 1 to Column Cost 25 logical data sources that are configured as manual entry. Click **Column Details** to open the Select Column window and select the columns to export.

2   Read the confirmation message and then click **Yes** to continue.

3   You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.

4   Click **Save** and specify the location in which to save the CSV file.

Import company cost sheet data

You can import manual entry columns into the cost sheet from a CSV file, such as a Microsoft Excel spreadsheet saved in CSV format.

To import company cost sheet data

1   In the company cost sheet, click the **Import** button then choose **Column Details**.

2   Browse to the CSV file to import, select it, and click.

WORKING WITH COMPANY ACCOUNTS SHEETS

The company accounts sheet is used to track company level accounts information, such as assets, resources, and facility maintenance. It is similar to a project or shell cost sheet, using account codes instead of WBS codes.

Account codes are independent of WBS codes, but are similar in structure format. Company-level business processes can be designed in uDesigner to roll up to the accounts sheet (line items are associated with account codes).

For information about setting up the accounts sheet, see the *Unifier Administration Guide*.

Open the accounts sheet

To open the accounts sheet

1   In User Mode, select **Company Workspace > Cost Manager > Accounts Sheet**. The Accounts Sheet log opens. If an accounts sheet has been created, it will be displayed in the log.

2   Select the sheet and click **Open**.

Figure 7-17 Example Company Account Sheet

The accounts sheet works similarly to cost sheets. Like cost sheets, you can:

- Enter data into manual data-entry columns.
- View rolled up transaction details by clicking a cell with a hyperlink.
- View a column definition by clicking a column heading.
- Copy column data from one column to another (Edit > Copy > Column Data; the original values will be overwritten).
- Save and view snapshots (File > Create Snapshot; View > Snapshot Log).
- Import and export column details.
- Export accounts summary sheet.

Activate or deactivate account codes

You can control the status of account codes. If an account code is inactive, it will be displayed on the accounts sheet, but will not be available for selection in an Account Code picker, such as on company account business process transactions.

To activate or deactivate an accounts code

1   Open the accounts sheet.

2   Click the **Account Status** button. The Account Code Status window opens.

3   Select one or more account codes.

4   Click **Activate** or **Deactivate**.
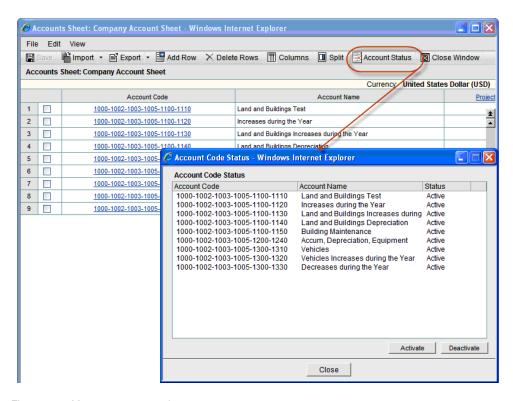
Figure 7-18 Manage account code status

WORKING WITH THE FUNDING MANAGER

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ABOUT THE FUNDING MANAGER

The Funding Manager helps you to keep track of where project or shell funding comes from and how it is being spent. This feature is accessed via the Funding node under the Cost Manager. Use the Funding sheet to specify the appropriation and assignment of funds from each source. You can automate fund appropriation and assignment when used with Cost business processes.

To use the Funding Manager, the following must be set up (these are discussed in the *Unifier Administration Guide*):

- **Design and import a fund attribute form in uDesigner**. This will be used as the Fund Details window when adding new funds to the company funding sheet, or viewing fund properties. A fund picker, used to add funds to business processes or the project/shell funding sheet, can also be designed. This is an optional step. If you do not create a fund attribute form, a default fund code form and fund picker will be used.

- **Import and set up fund business processes**. You can use business processes for fund allocations, fund assignment (consumption), and fund credits.

- **Create and set up the Company Funding Sheet**. The company funding sheet tracks the funds that can be used to fund project or shell expenses. The following procedures assume that the rows (funds) and columns of the funding sheet have already been created.

- **Create and set up the Project/Shell Funding Template and Sheet**. The project or shell funding sheet tracks the funds that have been allocated from company funds for a particular project or shell. The project or shell funding sheet is based on the funding template, which is created first. The following procedures assume that the project/shell funding sheet has been created, rows and columns have been added. (Note: The rows correspond to funds chosen from the company funding sheet. Funds can be added manually, or can be added via fund allocation business processes, discussed later in this section.)

- **Define funding assignment rules**. Funding assignment rules are set up in the project/shell funding sheet and/or template. These determine which business processes are used for fund appropriations and assignments and how to consume funds (ratio or fund order) if you will be using automatic fund assignment from business processes. The following procedures assume these options have been set up.

- **Create funding rules in the rules engine**. Optionally, funding rules can be created in the rules engine that can help you manage your funds and fund balances, for example, to prevent fund balances from becoming less than zero.

Company Funding Sheet vs. Project or Shell Funding Sheets

Before you can create a funding sheet for a specific project or shell, you must first define funding at the company-level, where individual funding sources are set up.

For example, a corporation's funding sources may include different types of corporate accounts. For municipal or educational facilities, funds may come from bond measures, grants, donations or other sources. All of these funding sources will be listed and tracked on the company funding sheet. As funds are consumed via business processes or manually in individual project or shells, this data is rolled up to the company funding sheet.

Project or shell funding sheets track how your company's funding is being spent on each project or shell. It tracks individual transactions, which are rolled up to the company funding sheet. All project or shell funding sheets must be created based on a Funding Template.

WORKING WITH THE COMPANY FUNDING SHEET

The following procedures described managing funds on the company funding sheet.

Open the company funding sheet

The company funding sheet is accessed from the company level Cost Manager.

To open the company funding sheet

1   In the Navigator in User Mode, navigate to the company level.

2   Click on **Cost Manager**, then on **Funding**. The Funding log opens.

3   Select the company funding sheet and click **Open**. The Company Funding Sheet opens.

> **Note:** *Like cost sheets, you can click the **Split** button to split the window to scroll through the columns while maintaining the fund listing in view.*
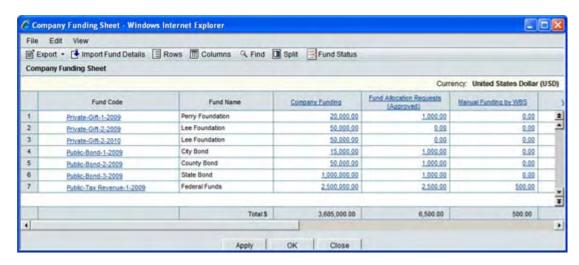
Figure 7-19 Example company funding sheet

For information about setting up columns and rows on the company funding sheet, see the *Unifier Administration Guide*.

About company funding sheet columns

The columns on the company funding sheet are used to track project and shell level funding and keep track of fund balances.

A common way to enter the starting value of a fund is by adding a Company Funding column to the company funding sheet. This is generally a manual entry column (either direct entry or line item entry). The original value of each fund (one fund per row) is entered into this column.

Additional columns commonly track fund assignments (consumption) made against each fund in projects or shells. These can be in the form of business process transactions or manual funding assignments. Each project or shell level business process or manual entry column can be rolled up to the company funding sheet separately, or project/shell fund assignments can be

totalled in the project/shell sheet, and rolled up to the company sheet. A good practice is to have a fund balance formula column that tracks the difference between the original fund value minus all funding assignments, which provides a running balance for each fund. A rule can be created in the Rules Engine to make sure that this fund balance never becomes less than zero (or other specified value).

To view column details
In the funding sheet, click a column header link to view the column details. This will display the data source and, for formula columns, display the formula used.

About company funding sheet rows

Each row in the company funding sheet corresponds to one fund. Depending on how the company funding sheet is set up, the starting value of each fund may need to be manually entered. This is commonly done in a column using the Company Funding data source.

If you are working with a large number of funds, there are ways to help you find the fund that you are looking for. You can search for individual fund codes using the Find feature. You can also create and apply filters, which can be used to temporarily limit the number of funds displayed on the sheet. For more information, see the following topics: "Searching for Fund Codes" on page 309, "Creating and Applying Filters" on page 310.

To view fund details
In the funding sheet, click the fund code link (in the Fund Code column) to open the Fund Details. If a Fund Attribute form has been designed in uDesigner and imported into Unifier, this window shows the fields on the form. If a Fund Attribute form is not being used, the default window opens, showing basic information such as the fund code, fund name and description.

Add currency amounts to company funds

Once the company funding sheet has been set up, the funds must be "funded" -- enter the funding amounts that will be used to fund your projects and shells. Commonly, the Company Funding data source is used as a manual entry column to enter the starting amount of each fund, or add additional funds to it. This column can be direct entry or line item entry.

This procedure assumes the funds have already been added to the sheet. It also assumes that a column has been added to the sheet for manual fund entry. Commonly, this uses the Company Funding data source. You can click a column heading to verify the data source used. For details about adding funds (rows) or columns to the company funding sheet, see the *Unifier Administration Guide*.

To add a value to a company fund

1   Open the company funding sheet.

2   Locate the column that is used for adding value to company funds on the sheet, commonly, the Company Funding column.

3   Do one of the following:

- If the column is direct entry, click inside the cell and enter the amount. If the cell already has a value, you can modify it.
- If the column is line item entry, click the link in the cell. The Cell Detail window opens. You can:
  - Click **Add Line Item** to add a new line item.
  - Select a line item and click **Copy Line Item** to add a line item by copying another.
  - Double-click an existing line item to modify it.
  - Select a line item and click **Remove Line Item** to remove it.

  Enter the line item information in the Line Item window and click **OK**.

The amount in the Company Funding column can be used as the starting amount of a fund. Other columns on the company funding sheet can be used to roll up transaction and manual funding amounts from project/shell funding sheets, and formula columns can be added to keep track of the fund balance.

Activate or deactivate company funds

You can active or deactivate company funds, which controls their availability for project or shell funding. If you set a fund to "Inactive" at company level, then that fund will no longer be available for project- or shell-level funding sheets; however, if a fund is already listed on a project or shell funding sheet, inactivating the fund at the company level will not affect the fund.

To set the company fund status

1   Open the company funding sheet

2   Click the **Fund Status** button on the toolbar. The **Fund Status** window opens.

3   Select a fund in the table, then click **Activate** or **Deactivate**.

4   Click **Close** to exit the window.

Import or export funding sheet information

You can export a summary of the funding sheet, which creates a CSV file that contains the rows, columns and data on the funding sheet. You can also export a CSV file containing fund details, which includes all fund codes on the sheet and the data captured for them from the Fund Details window. This is available in company, project and shell funding sheets.

You can also import fund details to a company funding sheet. This allows you to add fund codes to a funding sheet directly from a CSV file, rather than add them manually.

For details, see "Importing and Exporting Funding Sheet Information" on page 312

WORKING WITH PROJECT OR SHELL FUNDING SHEETS

The Project/Shell Funding Sheet tracks how funding is being allocated and consumed at the project or shell level. Project or shell funding sheets work in conjunction with the company funding sheet. Fund allocation, assignment and credits can be done manually, or through a business processes.

Note: *Since funding originates at the company level in the company funding sheet, funding is always done in base currency, even if the project currency is different.*

Open a project or shell funding sheet

The funding sheet is accessed from the **Cost Manager > Funding** log. There is one funding sheet per project or shell.

To open a project or shell funding sheet

1   In the Navigator in User Mode, open the project or shell.

2   Click on **Cost Manager**, and then on **Funding**. The Funding log opens.

3   Select the project or shell funding sheet and click **Open**. The Funding Sheet opens.

> **Note:** *Like cost sheets, you can click the **Split** button to split the window to scroll through the columns while maintaining the fund listing in view.*
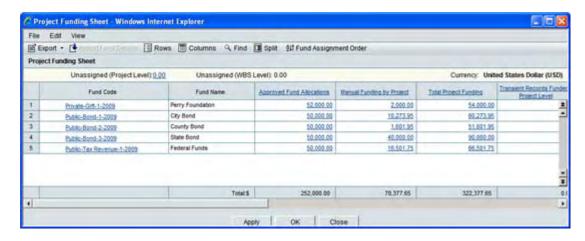
Figure 7-20 Example Project Funding Sheet

For information about setting up columns and rows on the project or shell funding sheet, see the *Unifier Administration Guide*.

About project/shell funding sheet columns

The columns on the project/shell funding sheet are used to track the funding on that project or shell, and to keep track of the fund balances that have been appropriated for its use.

Commonly, the Project Funding column is used to enter the allocation amount of each fund for that project/shell.

Additional columns commonly track fund assignments (consumption) made against each fund. These can be in the form of business process transactions or manual funding assignments, with one column for each business process, and manual entry columns for project level funding and WBS level funding.

The Records Funded at Project Level (or WBS Level) column(s) can be used to track the totals of business process transactions involving fund assignment. This is used for records already reaching terminal status. The Transient Records Funded at Project Level (or WBS Level) column(s) works similarly, but is used for records that are currently in process, and have already been funded before reaching terminal status. These columns can also include any credited funding that may occur due to invoice credits or other negative amounts.

A good practice is to add a fund balance formula column that tracks the difference between the original fund value minus all funding assignments, which provides a running balance for each fund.

For more information about specific column data sources, see the *Unifier Administration Guide*.

To view column details
In the funding sheet, click a column header link to view the column details. This will include the data source and, for formula columns, display the formula used.

About project/shell funding sheet rows

Each row in the project or shell funding sheet corresponds to a fund that has been allocated for use on this project or shell. Each fund originates on the company funding sheet.

Fund allocation can be done manually, by adding rows to the project/shell funding sheet. A fund picker is used to select which funds from the company funding sheet to add. This procedures is discussed in the Unifier Administration Guide.

Funds can also be allocated to a project by using a fund allocation business process (designed in uDesigner) that is designed to choose the funds and funding allocation amounts for the project/shell.

For manually allocated funds, the starting amount of each fund can be entered manually. Commonly, the Project Funding column is used to enter the starting value of each fund when funds can be used for the project regardless of WBS code, or the WBS Funding column is used when funding is specified per WBS code. These value can roll up to the company funding sheet column of the same data source.

If you are working with a large number of funds, there are ways to help you find the fund that you are looking for. You can search for individual fund codes using the Find feature. You can also create and apply filters, which can be used to temporarily limit the number of funds displayed on the sheet. For more information, see the following topics: .

To view fund details
In the funding sheet, click the fund code link (in the Fund Code column). The Fund Details opens. If a Fund Attribute form has been designed in uDesigner and imported into Unifier, this window will include the fields added to the form in the design. If a Fund Attribute form is not being used, the default window opens, listing basic information such as the fund code, fund name and description.

View funding sheet properties

The Properties window defines general setup information and assignment details for the funding sheet. See the *Unifier Administration Guide* for details on the fund assignment options.

To view project or shell funding sheet properties

1   In the project or shell Funding log, select the funding sheet and click the **Properties** button. The Properties window opens.

   • The General tab defines the Title, Description and Display Mode for the sheet. If you have edit permissions, you can edit these, including switching back and forth between the display mode options as needed.

   • The Assignment tab is used to define the funding assignment options:

      • **Project and WBS Level**: Specifies the sources of fund allocation for the project or shell, either manual entry or via fund appropriation business processes.

      • **Assignment Levels and Rules**: For each funding business process that has been set up for the project or shell, this specifies how funds are assigned, either manually, Auto Order, or Auto Ratio:

   For more information, see "About funding assignment options" on page 299. For details, see the *Unifier Administration Guide*.

2   Click **OK** or **Cancel** to close the window.

About funding assignment options

Funding assignment options for the project or shell are defined on the Assignment tab of the Properties window. (Open the funding sheet, and choose **File > Properties**.) This includes defining how fund allocation can be done, specifying whether manual assignment is allowed, defining the business processes that can be used to assign funds to project or shells or to specific WBS codes, and defining assignment levels.

Project Level and WBS Level: Specifies how funds can be added for this project or shell. This can be Manual (appropriate funds manually from the company funding sheet), and/or through funding appropriation business processes.

You can define funding appropriations at the project level (not associated with specific WBS codes), and at the WBS level (funding is specified per WBS code). You can "mix and match" for each project, with some business processes using project level funding, and others WBS level. Manual fund appropriations can be done at both levels.

Assignment Levels and Rules: Specifies how assignment is done for each funding business process that has been set up for the project or shell: Manual, Auto Order, or Auto Ratio. It also specifies whether funds are assigned at the Project Level (funding is consumed based on the total of the spends business process, providing greater flexibility for fund assignment), or WBS Level (funding is consumed per line item of a spends business process, which provides greater control over how funds are spent on each item.)

   • **Manual**: Funds can be manually assigned. As spends business processes (e.g., invoices or payment applications) are routed and reach specified statuses, the amounts to be funded are collected under the Unassigned total on the funding sheet. A Funding button becomes available on the business process form. Clicking the button opens the Funding window, in which funds can be assigned.

- **Auto Order**: Funds are assigned automatically when a spends business process reaches a specified status. Funds are assigned based on the fund order, which is defined on the funding sheet by clicking the Fund Assignment Order button. When funds are consumed on one fund, then the next funding source is used for funding. Once all funds are consumed, remaining spends are collected under Unassigned.

- **Auto Ratio**: Funds are assigned automatically when a spends business process reaches a specified status. Funds are assigned based on the fund ratio, which is automatically calculated based on current fund levels. Once all funds are consumed, remaining spends are collected under Unassigned.

For more details, see the *Unifier Administration Guide*.
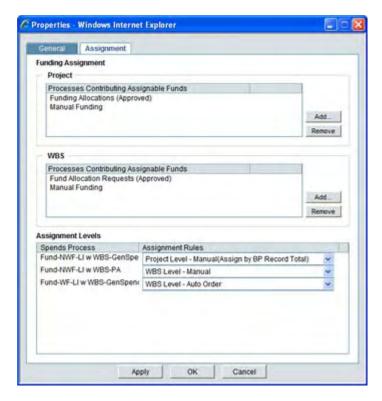
Figure 7-21 Properties window, Assignment tab: Funding Assignment options

View funding sheet cell details

The values displayed in a cell on the funding sheet may reflect information from multiple line items, business process transactions, or results of a calculation from other cells. The following procedures discuss how to view the details about an entry in a funding sheet cell.

To open the Cell Details window
In the Funding Sheet window, click the link in the line item cell to view information. The Cell Detail window opens.

To view manual line item entry details
In the Cell Detail window, double-click a listed line item. The Line Item window opens.

To view business process transaction details

1   In the Cell Detail window, double-click a listed line item. A view-only copy of the business process transaction opens.

2   Double-click a line item. The Line Item window opens.

To view formula cell details

1   In the Cell Detail window, if line items from manual-entry columns or business process transaction columns are included in the calculation, they will be listed in the lower portion of the window, with the calculated value for each line item.

2   Click a listed line item. If the line item is a BP transaction, the business process form opens. If the line item is a manual entry, the Line Item window opens.

3   To view the formula used for the column, click the **Formula** link.

ALLOCATING FUNDS TO A PROJECT OR SHELL

This section discusses fund allocation. Allocation refers to reserving a certain amount of a company fund to a particular project or shell.

Funds can be allocated to a project or shell either by manually adding rows to the project/shell funding sheet (described in the *Unifier Administration Guide*) and entering allocation amounts, or through business processes transactions, which automatically add the rows and allocation amounts. Fund allocation can be done at the project/shell level (funds are available to any expense in the project or shell), or at the WBS level (funding is allocated per WBS code).

Manually enter project/shell fund allocation amounts

Once the project/shell funding sheet has been set up, the funds must be "funded" -- enter the funding amounts that will be used to fund your projects and shells. The following procedures discuss manually allocating funds and entering amounts to the funds that will be used in the project or shell. (Fund allocation using business processes is discussed in a later section.)

Commonly, the Manual Funding By Project data source is used as a manual entry column to enter the starting amount of each fund, or add additional funds to it. This column can be direct entry or line item entry, and is used for project level fund allocation. The Manual Project by WBS data source can be added to the project/fund cost sheet, and values added there. The same column data source can be added to the project/shell funding sheet to display the values added to the cost sheet column. This is used for WBS level fund allocation.

The following procedures assume that the appropriate funds (rows) and columns have already been added to the funding sheet. You can click a column heading to verify the data source used. For details about adding funds (rows) or columns to the company funding sheet, see the *Unifier Administration Guide*.

To enter project level fund allocation values (on the funding sheet)

1   Open the project or shell funding sheet.

2   Locate the column that is used for adding value to funds on the sheet, commonly, the **Manual Funding by Project** column.

3   Do one of the following:

- If the column is direct entry, click inside the cell and enter the amount. If the cell already has a value, you can modify it.
- If the column is line item entry, click the link in the cell. The Cell Detail window opens. You can:
  - Click **Add Line Item** to add a new line item.
  - Select a line item and click **Copy Line Item** to add a line item by copying another.
  - Double-click an existing line item to modify it.
  - Select a line item and click **Remove Line Item** to remove it.

  Enter the line item information in the Line Item window and click **OK**.

This amount can be used as the starting project level amount of a fund. Other columns on the funding sheet can be used to track transactions, and formula columns can be added to keep track of the fund balance.

To enter WBS level fund allocation values (on the cost sheet)

1   Open the project or shell cost sheet.

2   Locate the column that is used for adding value to funds by WBS code, commonly, the **Manual Funding by WBS** column.

3   Click the link in the cell. The Cell Detail window opens. You can:
  - Click **Add Line Item** to add a new line item.
  - Select a line item and click **Copy Line Item** to add a line item by copying another.
  - Double-click an existing line item to modify it.
  - Select a line item and click **Remove Line Item** to remove it.

4   Complete the Line Item window.

5   Select a fund from the fund picker by clicking the **Select** button for the Funding Source. The fund picker lists the funds that are active at the company level. To search for a specific fund, click **Find**.

6   Click **OK**. The new line item will be added to the Cell Detail window. If the Manual Funding by WBS column has also been added to the project/shell funding sheet, the value will display there.

To add funding sheet data through a formula

Formula columns calculate results based on data entered in other columns. You cannot enter data directly into a formula column. You may click the funding sheet column header to view the data source for the cells in the column. If the column is a formula column, it will be displayed, and you can view which other columns are used in the calculation.

Allocate funds through business processes

Funds can be allocated to a project or shell using a fund allocation business process. These business processes are defined in uDesigner. Following is a summary of the business process types and design options that may be used:

Project level:

- Cost type, subtype line items with fund code, classification generic.
- Workflow or non-workflow

WBS level:

- Cost type, subtype line items with WBS and fund code, classification generic.
- Workflow or non-workflow

Commonly, columns are added to the funding sheet to capture funding allocation business process transactions. The Project Funding column might be used (as a formula) to capture the sum of all allocations and manual allocation for each fund.

To allocate funds and enter amounts through a business process

1 Create the business process record.

2 Add line items as necessary.

- Select a fund from the fund picker by clicking the **Select** button for the Funding Source. The fund picker lists the funds that are active at the company level. To search for a specific fund, click **Find**.
- The Line Item window may also include a WBS picker, for WBS level allocations.

3 Route the business process record as usual.

ASSIGNING AND CREDITING FUNDS

This section discusses assigning (consuming) funds. When funds are "assigned," it means they are consumed from the allocated amount for that project or shell. Funds can also be credited back to the source when necessary.

Fund assignments are based on spends type business processes within the project or shell (e.g., invoices or payment applications), which enables accurate funding and tracking of project expenses. Funds are assigned based on the amount of a spends record, and can never exceed that amount. The behavior of funding business processes depends both on the design options chosen in uDesigner and the Assignment Levels chosen on the project/shell funding sheet properties.

Funding assignments are based on business processes transactions, and commonly, columns are added to the funding sheet to track spends business processes eligible for funding. Formula columns may also be added to track the totals of these records, which may include Records Funded at Project Level (and/or WBS Level), for completed records; and Transient Records Funded at Project Level (or WBS Level), to track funding on records that are funded while in process. Values can also roll up to the company funding sheet if the same data source columns are added.

View Unassigned amounts

When spends business processes are set up to be funded manually, the amount of the record initially is captured in one of the Unassigned fields on the funding sheet. This value displays until the entire amount of the record has been fully funded. For Project level funding, the amount displays in the Unassigned (Project Level) field; for WBS level funding, the amount shows up in the Unassigned (WBS Level) field.

It is possible that an Unassigned amount can be negative, as the result of a credit invoice that has not yet been credited back to the funding source.

Note: *These can also be rolled up to the cost sheet using the Unfunded Record data source.*

To view unassigned amounts

1   Open the project or shell funding sheet.

If business process transactions have occurred that have not yet been funded, the total of the record(s) will display in one of the Unassigned fields in the upper portion of the form.

2   Click the link next to Unassigned (Project Level) or Unassigned (WBS Level). The Cell Detail window opens. The window lists transaction records that have not yet been fully funded.

Manual vs. automatic fund assignment

Funding assignments can be done automatically or manually. Fund assignments can be manual or automatic. This is set in the funding assignment levels in the funding sheet properties.

Manual fund assignment

For manual assignments, and depending on the design of the business process, the following may occur:

- You may be able to view or perform funding assignments or credits at any step in the workflow (or for a non-workflow business process, any status). When the business process is in process, it is referred to as a "Transient Record." This allows the record to be funded, edited and reviewed before the record is finalized and closed.
- When funding is enabled (or can be viewed), a Funding button appears on the business process form. Click the button to open the Funding Window.
- It is possible that the business process can be designed to disallow funding assignments or credits at the end step (or terminal status if non-workflow). This option prevents further editing of funding assignments or credits after the record has gone through a review process.

Good practice tips: Review the invoice line items and be sure they are accurate before doing funding. A good practice for design is to disallow line item from being edited after fund assignment steps. This will prevent the invoice line items from being edited after funding has already been assigned.

Automatic fund assignment

For automatic assignments, the following generally occurs

- Automatic funding occurs when the record reaches the end step in the workflow, or when Finish Editing is clicked if non-workflow.
- The funds are assigned based either on the fund assignment order, or by the ratio of the amounts of each fund, as determined in the assignment options in the Properties.

It is possible to adjust funding after automatic fund assignments.

About crediting funds

Sometimes it is necessary to credit back funds that have already been assigned. The same general procedures for assigning funds can be used for crediting funds as well. You may need to credit funds back to the credit source if:

- You receive an invoice credit from a vendor, and funds have already been assigned to the original invoice amount.
- A mistake was made in the original fund assignment, either by assigning too high a value, or assigning funds from the wrong fund.

You cannot credit more of a fund than has been consumed.

You can also credit previously assigned funds back to the fund source, either due to receiving a credit invoice or line item (e.g., a vendor credit), or to correct a previous assignment error.

About business processes enabled for funding

Business process behavior is dependent on the how the business process was designed in uDesigner, and the assignment options chosen in the project/shell funding sheet. In general, the design determines when funding assignments can be viewed or performed, and the assignment options determine whether the assignment is done manually or automatically, and at what levels.

Spends type business processes (e.g., invoices or payment applications) can be designed in uDesigner to consume funds. Following is a summary of the business process types and design options that can be used:

Project level:

- Cost type, subtype line items with fund code, classification generic, general spends or payment application.
- Workflow or non-workflow.
- Each action form can be enabled with the following options: "View fund assignment" and "Allow fund assignment." This option allows funding assignments to be viewed or performed at any step in the workflow (or any status if non-workflow). The "Allow fund assignment" option is applicable when the business process is set up for manual assignment in the funding assignment levels in the funding sheet properties.
- An option can be set for the business process that disallows manual fund assignment once the record reaches end step (or terminal status for non-workflow). When this option is chosen, it takes precedence over the "Allow fund assignment" setting, even if an action form is used on the end step. This option does not affect automatic fund assignments.
    - This option is found on the Edit Studio window, Options tab.

WBS level:

- Cost type, subtype line items with WBS and fund code, classification generic, general spends or payment application.
- Other options are the same as for Project Level.

Manually assign or credit funds (unassigned funds)

Normally, if a spends business process record has not been set up to automatically assign funds upon reaching a certain status, then that record total will show as Unassigned Funds in the project/shell funding sheet.

When the funding business process reaches a specified workflow step or status, a **Funding** button appears on the business process form. Clicking the Funding button opens the Funding window, allowing manual fund assignment.

Funds can be manually assigned at the project or shell level (project or shell funding sheet), WBS level (project or shell cost sheet), or business process level (spends business process record designed to consume funds).

If a credit invoice (negative line item or invoice amount) has been submitted, this can be used to credit previously consumed funds back to the source, or can be used to credit another fund. You cannot credit an amount that is more than has been consumed.

To manually assign funds at the project or shell level from the funding sheet

1   Open the project or shell funding sheet.

2   In the upper portion of the window, click the link next to **Unassigned (project or shell Level)**. This link displays the amount of funds that are not currently assigned to a particular fund.

    The Cell Detail window opens. The Cell Detail window displays the list of spends business process records that have not yet been fully funded. A record can appear on this list if you do not have enough funds available during an auto-assignment process, or if you set Manual as the assignment rule for the business process under the funding sheet Assignment tab.

3   Select one or more records from the list and click the **Assign to Funds** button on toolbar. The Manual Fund Assignment window opens

4   Enter a percent (%) amount for each record against a funding source.

5   Click **OK**.

Note: *Because the number of decimal places is limited to two in the Manual Fund Assignment window, some amounts from funds can never be consumed. If you cannot use funds completely through the Assign to Funds window, go to the Spend BP record and manually consume the fund by entering the amount.*

To manually assign funds at the WBS level from the cost sheet

1   Open the project or shell cost sheet.

2   In the upper portion of the window, note the amount shown in the **Unassigned at WBS Level** field. This is an amount that gets rolled up from the unfunded record data source in the project or shell cost sheet.

3   Click on a cell under the Unfunded Records column for a WBS code.

4   The Cell Detail window opens. The Cell Detail window displays the list of records that are not funded.

5   Select one or more records from the list and click the **Assign to Funds** button on the toolbar.

6   Enter a percent (%) amount for each record against a funding source.

7   Click **OK** to close the form.

Note: *Funds can be automatically consumed at the WBS level by defining the fund order for each WBS Code from the Fund Assignment Order window on the Project/Shell cost sheet, and setting the assignment level to WBS Auto Order. See the Unifier Administration Guide for details about defining the fund assignment order on the cost sheet.*
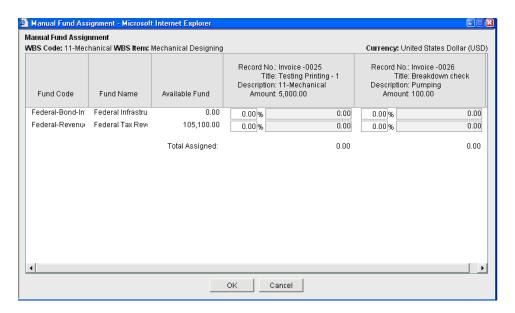
Figure 7-22 Manual Fund Assignment window

To manually assign or credit funds from a business process record

1 Open the business process record that needs to be funded. If the record is at a specified workflow step and status that allows funding, a Funding button is available.

2 Click the **Funding** button on the toolbar. The Funding window opens.

3 Select a line item from the upper pane. The bottom pane will display a list of funds that are available for that line item.

4 Enter the amounts for fund assignment. This is subtracted from the fund balance. For credits, enter negative amounts; the amount entered is added back to the fund balance.

5 Click **OK**.

If the business process is configured to use individual commit line items as SOV line items, the upper pane will not show a list of line items. You will see a total amount under the Unassigned Amount field.
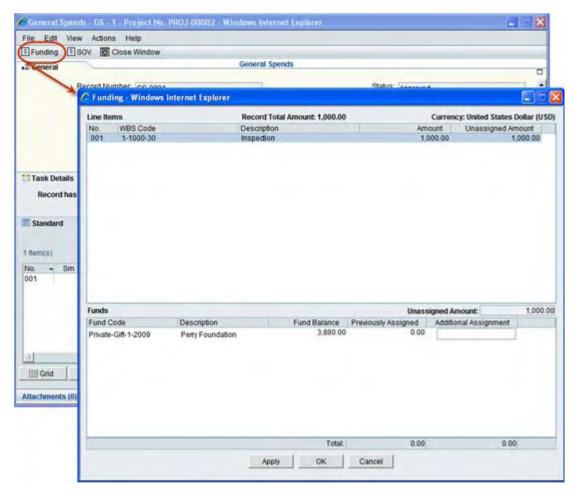
Figure 7-23 Funding window (from funding business process)

Reassign project/shell funds from a business process record

In addition to assigning or crediting funds from the funding sheet, you can also adjust the funding allocations that were rolled up to the funding sheet directly from the business process record in which the transaction took place.

To reassign project or shell funds

1   Open the business process record in which you want to reassign funds.

2   Click the **Funding** button. The Cell Detail window opens.

3   Click **Select**. The fund picker opens.

4   Select the funding source from which to assign funds.

   Depending on the design of the BP, the Fund picker may display all funds being used by the company or only those funds currently allocated to the project or shell.

5   Click **OK**. The Assign to Fund window opens.

6   Enter the percentage of the transaction amount to assign to the new fund and click **OK**.

SEARCHING FOR FUND CODES

If you are working with a large number of funds, there are ways to help you find the fund or funds that you are looking for. You can search for individual fund codes using the Find feature. You can also create and apply filters, which can be used to temporarily limit the number of funds displayed on the sheet.

Search for fund codes on a funding sheet or fund picker

You can use the Find button to help you find a particular fund on company, project or shell funding sheet, or a funding template. You can search by any column on the funding sheet, and is available if the display mode is Flat or Tree. Find is available on company, project and shell funding sheets and templates.

In addition, you can search for funds in a fund picker. The fund picker displays when you are adding funds to a project/shell funding sheet, or funds when adding line items to a business process record used for funding.

To search for a fund on a funding sheet

1 Open the funding sheet.

2 Click the Find button on the toolbar. The Find window opens.

3 Complete the Find window:
   - **Column**: Choose a column name. This dropdown contains the names of all columns that are displayed on the funding sheet, including Fund Code and Fund Name.
   - **Value**: Enter a value for which to search. You can enter a full or partial word, number or other value. (Do not enter a wildcard character for partial entries.) The format of your entry will depend on the type of value you are searching for. If you are searching for a fund code, you can include the code separator if one is used (for example, a dash).
   - **Search**: Choose **Up** or **Down**. For new searches, use Down. If a value is found, it will be selected on the sheet. If you want to continue to search, you can choose to search up or down from the current selection.

4 Click **Cancel** to close the Find window.

To search for a fund in a fund picker

1 Open the funding sheet or business process record.

2 Open the fund picker by doing one of the following:
   - On a project or shell funding sheet or template, add a row to the sheet by clicking **Rows**, then **Add Row**. In the Fund Details window, click the **Select** button next to the field for choosing a fund (e.g., Fund Code).
   - In the business process record, click the **Select** button next to the field for choosing a fund (e.g., Fund Code).

   The Fund Picker opens.

3   You can search for a specific fund in the fund picker:

    a   Click the **Find** button. The Find window opens. The window that opens will depend on the design in uDesigner.

       • If an attribute form is not defined, the default Find window will allow you to search by Fund Code or Fund Name.

       • If an attribute form is defined, the Find window can also be designed in uDesigner, and you may have additional fields to search by.

    b   Enter search criteria and click **Search**. This limits the number of funds that are displayed to those that match the search criteria.

4   Click **OK**. The fund appears as a row on the Funding Sheet. Funds are displayed in alphabetical order on funding sheet.

CREATING AND APPLYING FILTERS

If you are working with a large number of funds, it may be useful to display a subset of the total number of funds when working with the funding sheet. For example, you may want to only view new funds for the current year.

You can temporarily limit the number of funds displayed on the sheet by applying a filter. This feature is available on company, project and shell funding sheets, and funding sheet templates.

Create and manage filters

If you have Create or Modify permissions, you can create and save any number of filters. Anyone with permission to view the funding sheet can view and apply saved filters.

These procedures are applicable to company, project or shell funding sheets, and funding templates.

To create a new filter

1   Open the funding sheet.

2   Click the **View** menu and choose **Filters**. The Filters window opens. This window lists any filters that may have been created and saved previously.

3   Click the **Add** button. The Edit Filter window opens. In this window, you can add one or more conditions to use for filtering the funds display.

4   Enter a Filter Name. This name will display in the Filters window.

5   Click the **Add** button. The Add Query Condition window opens. You can enter one or multiple conditions.

6   Do the following:

    a   Choose a Data Element: This dropdown lists all data elements that are on the fund attribute form. Any data elements in a hidden block are not available.

    b   Choose a Condition: This dropdown displays a list of conditions. This list is based on the type of data element selected.

    c   Choose a value: Depending on the type of data element, choose a value that the query condition must meet.

- Data Element:
- Constant Value: You can enter a full or partial entry of the value to filter by. This is similar to entering search criteria. For example, if you want to display only funds with "2010" in the fund code, then choose the data element Fund Code, condition of equals, and 2010 as a constant value. For pulldown or other multiple-entry fields, a Select button appears, allowing you to select a value.

7 If you add multiple conditions, and want the filter to be applied if any one listed condition is met, then select the *Show result matching ANY condition* checkbox.

> **Note:** *By default, the conditions are additive, meaning that all conditions must be met in order for the condition to be applicable. Select the checkbox if any one condition will suffice.*

8 Click **OK** to save and close each window.

To modify a filter

1 Open the funding sheet.

2 Click the **View** menu and choose **Filters**. The Filters window opens.

3 Choose a filter from the list and click the **Edit** button. The Edit Filter window opens.

4 You can edit the filter name, or add, modify or remove a condition.

    a To modify a condition, select the condition from the list and click the **Modify** button.

    b To remove a condition, select the condition and click the **Remove** button.

5 Click **OK** to save your changes.

To delete a filter

1 Open the funding sheet.

2 Click the **View** menu and choose **Filters**. The Filters window opens.

3 Choose a filter from the list and click the **Remove** button. Click **Yes** to confirm.

Apply a filter to limit the fund code display

By applying a filter to the funding sheet, you can temporarily reduce the number of fund codes that are displayed on the sheet.

To apply a filter

1 Open the funding sheet.

2 Click the **View** menu and choose **Filters**. The Filters window opens. This window lists any filters that have been created and saved.

3 Choose a filter from the list and click the **Apply Filter** button.

The funding sheet will display only those funds meeting the conditions of the filter selected. The top of the sheet will display the name of the filter.

To clear the filter and display all funds

If the funding sheet has a filter applied, click the **View** menu and choose **Clear Filter**. The sheet will refresh to display all funds.

IMPORTING AND EXPORTING FUNDING SHEET INFORMATION

You can export a summary of a funding sheet, which creates a CSV file that contains the rows, columns and data on the funding sheet. You can also export a CSV file containing fund details, which includes all fund codes on the sheet and the data captured for them from the Fund Details window.

You can also import fund details to a company funding sheet. This allows you to add fund codes to a funding sheet directly from a CSV file, rather than add them manually.

This procedures are applicable to company, project and shell funding sheets.

Export funding sheet information

You can export a summary funding sheet, which is a CSV file containing the rows (funds), columns and data on the funding sheet. You can do this in a company, project or shell funding sheet. Summary funding sheet information cannot be re-imported.

To export a funding sheet summary

1   Open the company, project or shell funding sheet.

2   Click the **Export** button and then choose **Summary Fund Sheet**.

3   Read the confirmation message and then click **Yes** to continue.

    You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.

4   Click **Save** and specify the location in which to save the CSV file.

Import and export fund details

You can export fund detail information from a company, project or shell funding sheet to a CSV file. This contains all of the information captured in the Fund Details form when the funds were added to the company funding sheet. When you export the fund details from the company funding sheet, the details of all funds are exported; exporting from a project or shell funding sheet gives the details of those funds added to that sheet.

When adding funds to a company funding sheet, you can use the export file as a template, add fund details to the CSV file, then re-import the file to add funds to the company funding sheet. You cannot use import to add funds to a project or shell funding sheet.

To export fund details from a funding sheet

1   Open the company, project or shell funding sheet.

2   Click the **Export** button and then choose **Fund Details**.

3 Read the confirmation message and then click **Yes** to continue.

You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.

4 Click **Save** and specify the location in which to save the CSV file.

To import fund details into a company funding sheet

1 Open the company funding sheet.

2 Be sure you first export the fund details and save the CSV file.

   a Note the instructions at the top of the file.

   b Remove any existing funds that may be listed in the export file, so that only the column headings remain. The instructions at the top of the file can remain.

   c Save the file.

3 Add the fund details for the funds that you want to import. Be sure to complete all required fields. Do not add fund codes that already exist on the funding sheet.

4 Click the **Import Fund Details** button.

5 Browse to the CSV file and click **Ok**. The funds you added to the import file will be added to the company funding sheet.

Note: *If any errors occur, download and open the error file, and correct the CSV file before reimporting. Common errors include trying to import fund codes that already exist on the sheet, or not completing required fields.*

AUDIT LOGS

View funding audit logs

Audit logs are available within the Fund Detail and Cell Detail windows of the project or shell funding sheet. The Audit log captures all of the events that took place, including what action occurred, who took the action, and the value that was created or modified.

To view the project or shell funding audit log
Open the project or shell funding sheet and do one of the following:

- From the View menu, click **Audit Log**.
- Click on a listed fund to open the Fund Detail window, and then click the **Audit Log** button.
- Click on a cell link (line item or project or shell allocation entry) to open the Cell Detail window. From the View menu, click **Audit Log**.

To view an audit log of company funding
Open the company funding sheet and do one of the following:

- From the Funding Sheet View menu, click **Audit Log**.
- Click on a listed fund to open the Fund Detail window, then click the **Audit Log** button.
- Open the Cell Detail window. From the View menu, click **Audit Log**.

The Audit log captures all of the events that took place, including what action occurred, who took the action, and the value that was created or modified.

WORKING WITH SCHEDULE OF VALUES, INVOICING, AND PAYMENT APPLICATIONS

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ABOUT SCHEDULE OF VALUES

Unifier's Schedule of Values (SOV) feature provides a way to assemble information from contract, change order, and invoice and payment BPs into a SOV sheet, streamlining the process of invoicing for completed phases of a project or shell.

SOV functionality is available with uDesigner-created cost BPs for which the Allow creation of Schedule of Values option is selected. The business processes can be designed to create an SOV sheet automatically upon reaching the designated step.

You may define one SOV sheet per commit business process (for example, a purchase order). Rows are automatically populated based on the WBS or account codes defined in the commit BP.

Types of SOVs

There are two types of SOV sheets:

- **General SOV**: This can be used for any commit business processes, and associated change commits and spends (or invoices).
- **SOV for payment applications**: This is associated with commit and spends business processes designed for payment applications. This allows direct entry of values in an SOV sheet, which are automatically added to a payment application. Breakdown for these SOVs is similar to the general SOV.

Both SOV types can show WBS information either by grouping WBS codes (WBS mode) or as individual line items from commits (base commit and change commit together). The information that SOVs display is dependent upon the design of the base commit.

CREATING AN SOV STRUCTURE

For SOV creation, it is important to have the correct column structure set up (meaning you have to include required columns and correct formulas) for validating summary commitments (by WBS) and remaining commits balance. In the SOV structure, you need to define a formula for remaining commits balance, which reflects the amount of commits minus spends. This column ensures that the spend BP line items are not overdrawn from SOV breakdowns.

Note: *If an SOV structure does not exist when you auto-create an SOV sheet with a cost BP, one will be created automatically with the default columns WBS Code, WBS Item, and Breakdown. You can edit this structure as needed. The default columns are not editable.*

Any modifications done to an SOV structure will be reflected on all SOV sheets using that structure, that is, all SOV sheets for that project or shell.

Create an SOV structure

SOV structures are defined at the project or shell level in User Mode. The following describes setting up the SOV structure for general SOVs and payment application SOVs. Structures are based on SOV templates.

For SOVs for payment applications:

- Columns are based on the detail form of the payment applications BP.
- Can be defined once the payment application BP is imported into Unifier.
- Available columns are data elements on the detail form.

To create an SOV structure

1   Open the project or shell.

2   In the Navigator, click **Cost Manager > Schedule of Values**. Select **General** or **Payment Applications**. The Schedule of Values log opens. The log should be empty. If SOV sheets are already present, then a structure already exists.

3   Click the **Structure** button. The Select Template window opens.

4   Select an SOV template from the list and click **OK**. Read the confirmation message and click **Yes** to confirm. SOV sheets will be created using the structure defined by the template. You can use this structure as is or make edits as necessary.

To view or set up the SOV structure

1   From the Schedule of Values log, click the **Structure** button the toolbar. The SOV Structure window opens.

2   Click the **Columns** button to add columns. Columns are added in a similar way to adding columns for a general SOV. See "About Schedule of Values" on page 315 for more information.

3   Click **OK**.
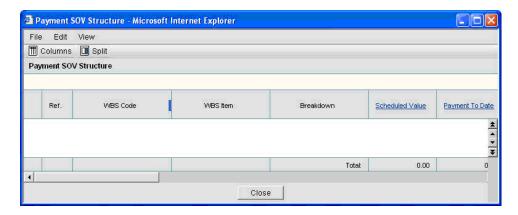
Figure 7-24 Payment SOV structure

Note: *While setting up the SOV structure, you may click the **Split** button to divide the window in half. This allows you to scroll through columns and rows on the right while maintaining a view of the*

*activity column on the left. Clicking the **Split** button again restores the whole window. While the window is split, you may click the **Freeze** button to lock the left half of the window in place. Click **Freeze** again to unfreeze.*

The structure may contain hidden columns. For example, one or more columns used in the formulas for other columns where the information in the hidden columns is not important to be viewed may have been hidden, leaving more room in the display for the formula column. Hidden columns otherwise behave normally.

To view or edit structure properties

1   From the Schedule of Values log, click **Structure**. The Structure window opens.

2   Click the **File** menu and choose **Properties**. The Properties window opens.

3   Make edits as needed and click **OK**.

   Note: *You can modify the WBS Code and WBS Item labels in the cost sheet.*

CREATING GENERAL SOV SHEETS

Create a general SOV sheet

Once the SOV template structure is set up, you can create SOV sheets based on the structure. SOV sheets can be created automatically or manually.

Note: If you manually create an SOV sheet, you can only create one based on an approved commit BP record.

To manually create a general SOV sheet

1   In the Schedule of Values log, click the **New** button. The Select Commit window opens.

2   Select a commit BP (e.g., a purchase order) and click **OK**. The SOV sheet is added to the log.

Note: If the commit BP has been set up in uDesigner to automatically create an SOV sheet upon the end step, the above procedure is not required.

To automatically create a general SOV sheet
In uDesigner, set the option for the spend or commit BP form for automatic creation of SOV sheets. The sheet displays in the SOV log when the BP reaches the designated status. The SOV sheet automatically pulls breakdown details from WBS properties for each WBS.

To view cell details
Click a link (e.g. Amount or Ref) to open the Cell Detail window. Double-clicking on a record from the list window shows the details of the record.

CREATING SOVS FOR PAYMENT APPLICATIONS

You can define the structure of a payment application SOV. Structure definition will be based on a payment application BP in the project or shell. This SOV type:

- Allows tracking of payment schedule against your commits similar to industry-standard forms.
- Allows you to create a breakdown for line items.

To manually create a payment application SOV sheet

1   Select **Schedule of Values > Payment Applications Log**.

2   Click the **New** button. The Select Commit window opens.

3   Select a commit BP (e.g., a purchase order) and click **OK**. The SOV sheet is added to the log.

Note: If a BP has been set up in uDesigner to automatically create a payment application SOV sheet upon the end step, the above procedure is not required.

Grant permissions to other users

The creator of a commit BP becomes the owner of the associated SOV sheet and can grant permission to other users to view or modify the SOV sheet.

To grant permissions to other users or groups

1   From the Schedule of Values log, select the SOV sheet.

2   Click the **Permissions** button.

3   Select users or groups to grant permission to. Select **Modify**, **Edit**, or **View** permission.

4   Click **OK**.

MANAGING SOV STRUCTURE, TEMPLATES, AND SHEETS

The following sections cover steps that apply to both general and payment application SOVs.

Edit SOVs

The following sections cover steps that apply to both general and payment application SOVs.

To open the SOV sheet
From the Schedule of Values log window, select the SOV sheet and click **Open**. The sheet opens, reflecting the SOV structure and is populated by the values on the commit BP.

To edit an SOV

1   Click the **Structure** button on the toolbar.

2   Click **File > Properties**.

3   Click the **Options** tab to modify information.

4 You can enter a custom label for the Ref, Breakdown, and Description fields. These are the labels that will appear as column names on the SOV sheet. You cannot modify WBS Code and WBS Item. These labels can be modified only on the cost sheet.

To delete an SOV sheet

Select the sheet from the log window and click **Delete**. If you delete an automatically created SOV sheet, you will have to recreate it manually. You cannot delete an SOV for payment application.

To view properties

Select the sheet from the log window and click **File > Properties**.

Edit SOV columns

To delete an SOV column

1 Select a column from the Columns log and click **Open** to open the Column Properties window.

2 Click **Delete**. The column will be deleted.

> **Note:** *If the column is being used in a formula in another column, you must remove the column from the formula before you can delete it. If the column contains a cell with line item data, you must first remove each line item before it can be deleted.*

To edit a column

Select a column from the Columns log and click **Open** to open the Column Properties window.

Although it is possible to change the entry method for a column (for example, from line item content to direct entry into a cell, use caution when doing so if you have already entered values in the column cells. For example, if you change from line item entry to direct cell entry, the amount value shown in the cell will display correctly, but will be an editable direct entry amount, and detailed line item information will be lost.

Some fields may not be editable. It may be necessary to delete the column and create a new one.

To move a column

From the Columns log, select a column to move, and then click **Move Up (Left)** or **Move Down (Right)**. The order that the columns appear in the log window is the order (from left to right) that they appear on the sheet.

Delete an SOV sheet

To delete a sheet

Select the sheet from the log window and click **Delete**. If you delete an automatically created SOV sheet, you will have to recreate it manually.

You cannot delete an SOV for payment application.

Search for SOV sheets

You can search for SOV sheets by the SOV base record or description.

To search for an SOV sheet

1   In the Schedule of Values General or Payment Applications log, click **Find**.

2   In the Search by drop-down list, select **SOV Base Record** or **SOV Description**.

3   In the Search for field, enter the search criteria. Click the **Search** button. The log will display the records meeting the search criteria.

Manage SOV sheet data

SOV data is rolled up from cost-type BPs that have been set up for SOVs. SOV sheets cannot be edited.

Export SOV data

You can export SOV data to a local file system in a CSV format.

To export schedule of values sheet data

1   In the Schedule of Values sheet, click the **File** menu and choose **Export**.

2   You may choose to open the file to review it before saving.

3   Click **Save** and specify the location in which to save the CSV file.

View or edit SOV sheet properties

To open the SOV Properties window
From the SOV log, select an SOV sheet and click the **Properties** button. The Properties window opens. Click the tabs to view properties information.

To edit SOV properties

1   Click the **Structure** button on the toolbar.

2   Click **File > Properties**.

3   Click the **Options** tab to modify information.

   You can enter a custom label for the Ref, Breakdown, and Description fields. These are the labels that will appear as column names on the SOV sheet.

   Note: *You cannot modify the WBS Code and WBS Item labels. These labels can be modified only in the cost sheet.*
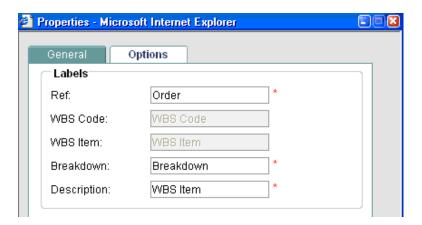
Figure 7-25 SOV Properties window, Options tab

WORKING WITH CASH FLOW

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ABOUT CASH FLOW

Unifier's cash flow functionality enables you to baseline projected spends, track actual costs, calculate future spends based on a known forecast (extrapolate), or calculate from trends compared to baseline curves (interpolate).

About cash flow sheets

A cash flow sheet is used to calculate and maintain detailed cash flow information. You can generate table data showing incremental and cumulative values, and graphs displaying multiple cash flow curves. Cash flow sheets and curves can be created at the project or shell, program, and company level.

You can save generated cash flow curves and refresh them to include newer data. You can refresh cash flow curves manually or schedule automatic refresh. Cash flow curves are also refreshed automatically when certain properties of the curve are modified.

Cash flow data sources are available to store curve data. These data sources can be used to roll up project or shell data to the program and company levels to view cash flow data across multiple project or shells.

Other cash flow features include:

- You can generate table data showing incremental and cumulative values, and graphs displaying multiple cash flow curves.
- There can be multiple cash flow sheets.
- You can set up the cash flow curve by project or shell or by WBS code.
- The data displays in project or shell currency.
- The cash flow sheet provides the function to export data to Excel, and save it to a local file system in CSV format.
- Interpolate data: Interpolation is estimating the cash flow curve based on known start and end values. There is not an equivalent option to interpolate as there is for extrapolate based on data set, but it is possible to interpolate data by specifying end point cost data. For interpolation, the curve will be based on a specified end point. The base curve and interpolated curve will merge together if the end values are the same.
- Extrapolate data: You have the option under curve properties to extrapolate the actual cost based on a provided data set. For example, you can estimate, or extrapolate, the cash flow curve for this year based on last year's data. For this option, you need to specify a data set, meaning data from an existing cash flow sheet from which the extrapolation is based. You can show interpolation and extrapolation by selecting S Curve as a curve properties option, along with selecting the option for "Begin calculation at end of [select existing Cash Flow curve]." For interpolation and extrapolation, the curve is generated from the last point of actual data. For WBS mode, the extrapolated or interpolated data is calculated based on the end point obtained from the curve used for "Begin calculation at end of" and then all of the curve points are summed together to display one curve from the period where the first value appears.

Types of cash flow curves

There are three types of cash flow curves that can be defined at the project or shell level:

Calculation: This option generates the curve based on sigma and mu values. You can also create a curve that is a blend of manual and calculation type by creating a calculation curve with the option of entering values manually. This allows you to plot graphs based on manually entered forecast information, but starting at the end of actual values. (Select the **Manual entry intermediate points** option on the Options tab.) This option also allows you to force manually entered numbers to the foot to column in the cost sheet.

Data from Cost Sheet column: This option generates curves based on cost sheet column data. If you select this option, the Select drop-down menu is enabled. Click **Select** and choose one of the cost sheet columns listed. The selection list will include columns whose data sources are business processes or formula columns based on BPs (for example, total spends or total commits). Manual entry cost sheet columns are not listed.

Manual Entry: This option generates the curve based on data that you have manually entered in the cash flow sheet at the project or shell level or WBS level. If you choose this option, click the **Details** button to input start and end dates for the curve.

Note: *Cash flow curves can be rolled up to the program and company level.*

CREATING CASH FLOW SHEETS

Access project or shell cash flow sheets

The first time that you create a project or shell cash flow sheet, you will be prompted to define the timescale to use, which will be used for subsequent cash flow sheets for the projects or shells.

To access project or shell cash flow sheets

1   In the Navigator in User Mode, open the project or shell.

2   Click **Cost Manager**, and then **Cash Flow**. The Cash Flow log opens, displaying the following:
   - **Name:** Name of the curve.
   - **Creator:** User who created the curve.
   - **Date Created:** Date the curve was created.
   - **Detail Level:** By WBS or by project or shell.
   - **Cost Sourc**e: Data source used to generate the curve.
   - **Start Date:** Start date of the curve.
   - **Finish Da**te: Finish date of the curve.
   - **Last Update:** The last time the curve data was refreshed.
   - **Scheduled:** This column will show scheduled frequency information of a cash flow curve.
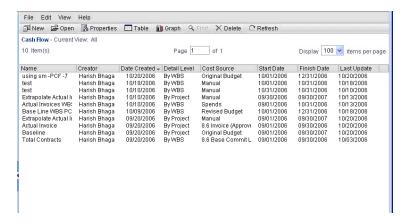
Figure 7-26 Project Cash Flow log

This button	Does this
New	Creates a new cash flow sheet. The first time you click New, you will be prompted to select a timescale for all subsequent cash flow sheets.
Open	Opens the selected cash flow sheet. Equivalent to double-clicking on a cash flow sheet from the log.
Properties	This displays the Properties window of the selected cash flow sheet.
Table	Clicking on this button displays the table view of all the selected cash flow data. The Export option is available from this table view.
Graph	Displays a graphical view of all cash flow sheets.
Delete	Deletes the selected cash flow sheet from the log.
Refresh	Click to refresh and update the selected cash flow curve.

Define the cash flow timescale

The Time Scale window determines the data representation by year, month, or quarter for all cash flow curves under a project or shell. This must be defined before creating any cash flow sheets.

The first time that you create a project or shell cash flow sheet, you will be prompted to define the timescale to use, which will be used for subsequent cash flow sheets for the project or shells.

To define the timescale
When you create a new cash flow sheet, you will be prompted to set the timescale. See the following procedure for details about creating a cash flow sheet.
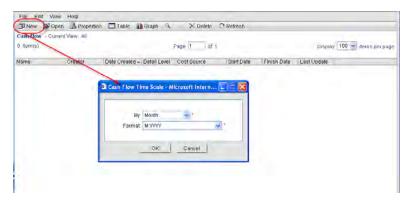
Figure 7-27 New Cash Flow sheet, set the timescale

In this field	Do this
By	Choose the timescale to use for all cash flow sheets for the project or shell.
Format	Choose a format option, which determines how the date is displayed on the curves.

To edit the timescale

After creating a cash flow sheet, you cannot edit the timescale. This can be set only when there are no cash flow curves under a project or shell. You can change the timescale if you delete all listed cash flow sheets from the log, and then create a new curve.

Create a project or shell cash flow sheet

This is the general procedure for creating a cash flow sheet. See the sections that follow for details about configuring and working with the sheets.

To create a project or shell cash flow sheet

1   From the Cash Flow log, click **New**. Do one of the following:

   • If the Cash Flow log is empty, the Cash Flow Time Scale window opens. Complete the Cash Flow Time Scale window, and then click **OK**. The Properties window opens.

   • If at least one cash flow sheet already exists in the log, the Properties window opens.

2   Complete the Properties window, as described in the following table.

   • If you choose the **Calculation** curve type, complete the Options tab.

   • If you choose the **Data from Cost Sheet column** or **Manual Entry** curve type, the Options tab is not applicable.

3   Click **OK**.
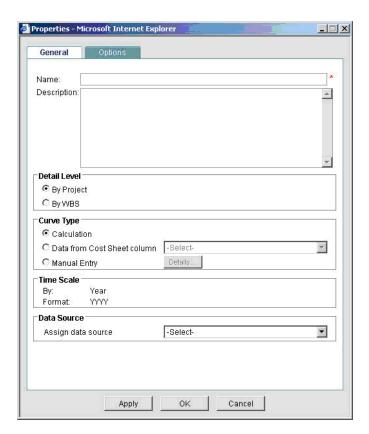
Figure 7-28 Cash Flow Properties window, General tab

In this field	Do this
Name	Enter a cash flow name.
Description	Enter a cash flow description.
Detail Level	Choose one of the following: **By Project**, **By Shell**, or **By WBS**.
Curve Type	Choose one of the following • **Calculation**: This option generates the curve based on the calculation parameter. If you choose this option, then the Options tab is enabled. • **Data from Cost Sheet column**: This option is used for generating the actual curve based on the transaction data. If you select this option, the Select drop-down menu is enabled. Click **Select** and choose one of the cost sheet columns listed. Columns on the cost sheet with manual data entry are not part of the selection list. • **Manual Entry**: This option is used for generating a curve based on data that you have manually entered in the cash flow sheet. If you choose this option, click the **Details** button to input start and end dates for the curve.
Time Scale	Displays the options selected in the Cash Flow Time Scale window.
Data Source	Allows you to choose a data source to store curve data to roll up to a program or company cash flow curve. Choose from Cash Flow 1 through Cash Flow 25. You can use this data source to roll up data to the program and company level to view cash flow data across multiple project or shells.

Define curve properties for calculations (Options tab)

The Options tab is available if the curve type is defined as Calculation in the General tab.
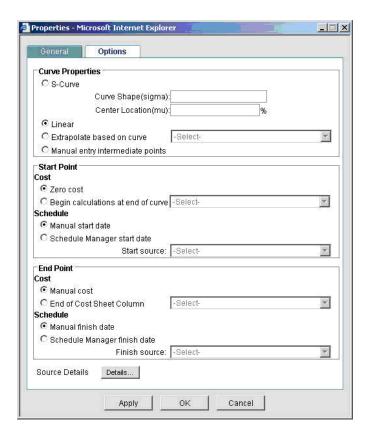
Figure 7-29 Cash Flow Properties window, Options tab

In this field	Do this
Curve Properties	Select the curve properties.
S-Curve	Specify the S curve properties: • Curve Shape (sigma): Valid values are from 1 to 5. The higher the value, the flatter the curve. A lower value results in a bell-shape curve. • Center Location (mu): Enter a percentage value. Valid values are from 0 to 100%.
Linear	Creates a linear curve.
Extrapolate based on curve	Select from the drop-down list of existing cash flow curves.
Manual entry intermediate points	Similar to S-Curve and Linear, this option allows blending of manual and calculation curves by allowing the entry of manual values to a calculation curve. When you choose this option, the cash flow sheet values are calculated, but are also editable.
Start Point	Specify the curve start point.
Cost	Select the curve starting point for cost-based cash flow curves: • Zero Cost: The start point will be zero. • Begin Calculation at end of curve: Select from the drop-down list of existing cash flow curves.

Schedule	Select the starting point for schedule-based cash flow curves: • Manual start date: Click the **Source Details** button to enter the start date. • Schedule Manager start date: Click the **Start source** drop-down list and choose from the list of Schedule Sheet columns.
End Point	Specify the curve end points.
Cost	Select the curve end point for cost-based cash flow curves: • Manual Cost: Click the **Source Details** button. • End of Cost Sheet Column: Cost is driven by the cost end point.
Schedule	Select the curve end point for schedule-based cash flow curves: • Manual finish date: Click the **Source Details** button to enter the start date. • Schedule Manager finish date: Click the **Finish source** drop-down list and choose from the list of schedule sheet columns.
Source Details	Click the **Details** button. The Source Details window opens and displays data based on the chosen information. If the choice for cost and schedule is manual, then it allows you to provide the project or shell cost, and start and end dates. Click **OK** to save and exit.

To define project or shell cost and start and end dates for the curve

1 In the cash flow curve Properties window, click the **Details** button. The Source Details window opens.

2 Define the project or shell cost and start and end dates for the curve.

　• If the curve is by project or shell, enter the total values by project or shell.

　• If the curve is by WBS, enter the values for each WBS code.
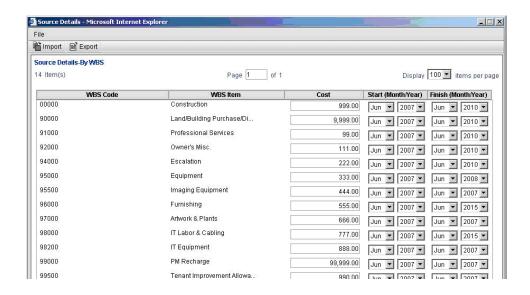
Figure 7-30 Source Details Window, By WBS (upper) and By Project or By Shell (lower)

Create a calculation curve that allows manual data entry

This procedure allows you to manually enter values on the resulting calculation cash flow sheet. For example, you can plot graphs based on manually entered forecast information starting at the end of a curve of actual values.

You can also create a forecast cost sheet with manually entered values that help you track automatically checks against your assigned budget on the cost sheet, and also updates automatically with actual values monthly (or quarterly or yearly, based on your selected timescale).

To create a calculation curve that allows manual data entry

1   In the Cash Flow log, click **New**.

2   In the Properties window, General tab, select **Calculation** as the curve type. Complete the rest of the General tab.

3   In the Options tab, select **Manual entry intermediate points** in the Curve Properties section, and then select the start point and end point.

4   Click **OK**.

Undistributed amount

With the above option, you have the further option to manually distribute or not distribute the forecast cash flow budget amount based on actual costs. The cash flow sheet can display the undistributed amount per project or shell or per WBS code. The undistributed amount can be a positive number (indicating it can be distributed among the points on the curve), or negative (indicating the amount for the month, quarter, or year has been exceeded, and the remaining forecast cash flow amounts need to be adjusted accordingly).

For example, a project or shell has a budget of $100,000 for the year, and cash flow is tracked monthly. A user wants to forecast cash flow manually, but have it be based on actual costs as updated each month from the cost sheet. The user creates a curve (by project or shell, calculation type), with the following options: Curve Properties: Manual entry intermediate points; Start Point: Begin calculations at end of curve (user creates and chooses a calculation curve that tracks actual monthly project or shell costs from the cost sheet); End Point: Manual Cost. In Source Details, the user enters $100,000 as the cost, beginning with the project or shell start date or current month, and ending with the end of the year. The user then opens the newly created cash flow sheet and manually distributes the $100,000 per month. Each month, the user then manually refreshes the curve to update the data as the monthly expenses roll up. If the actual cash flow amount differs from the manually entered forecast amount, the difference will reflect

at the top of the cast flow sheet as an undistributed amount. The remaining monthly forecast amounts can then be manually adjusted to reflect the actual costs. The undistributed amount displays at the top of the cash flow sheet when an editable cell is selected.

View project or shell cash for data and graphs

After creating the cash flow sheets, you can review cash flow data in table form (similar to a spreadsheet) or as a graph.

To view cash flow curve data and graphs

1 From the Cash Flow log, select a cash flow sheet and double-click to access the table view of the curve.

> **Note:** *Double-clicking a curve does not refresh it automatically. See "Refresh project or shell cash flow curve data" on page 335.*

2 The initial view is incremental data.

3 Click the **Cumulative** button on the toolbar to access the cumulative data of the curve.

4 Click the **Graph** button on the toolbar to access a graphical view of the curve.

5 You can also view the graphical view by selecting the cash flow sheet from the log and clicking the **Graph** button on the toolbar.
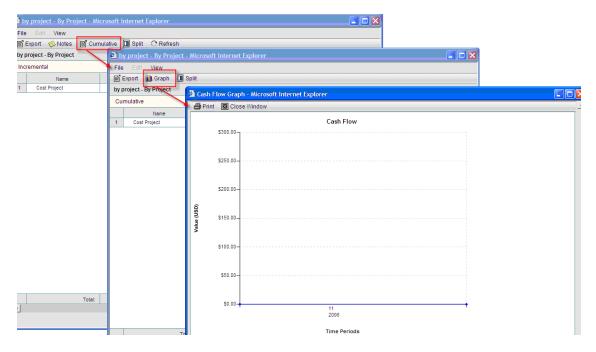
Figure 7-31 Cash Flow Graph

Cash flow sheet
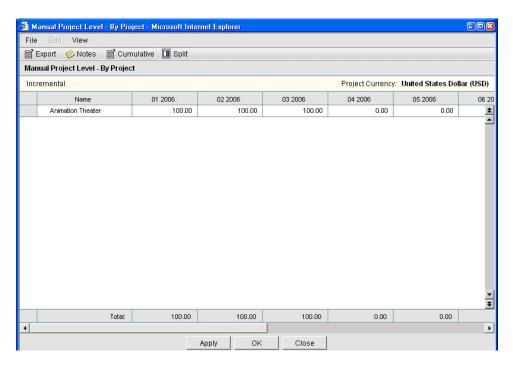
Figure 7-32 Cash flow sheet, incremental data
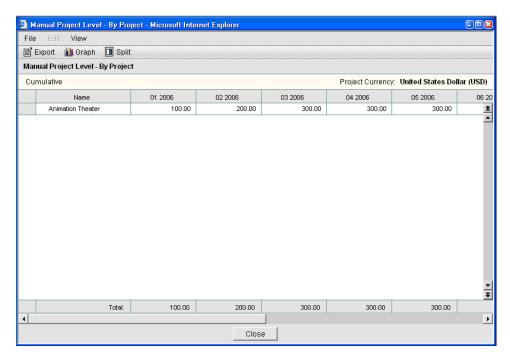
Figure 7-33 Cash flow sheet, cumulative data

Cash flow curve
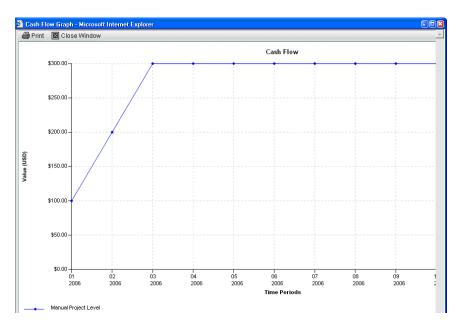
Figure 7-34 Cash Flow curve

View project or shell cash flow data from multiple sheets

You can view data from multiple cash flow sheets in the log. This can be displayed in tabular or graphical format.

To view tabular data for multiple cash flow sheets

1   From the Cash Flow log toolbar, click the **Table** button. The table will display data from all cash flow sheets. This data is incremental.

2   To select specific cash flow sheets to display, click the **Curves** button. Select the curves in the Cash Flow Curves window and click **OK**.

To view graphical data for multiple cash flow sheets

1   From the Cash Flow log toolbar, click the **Graph** button. The graph will display data from all cash flow sheets. This data is cumulative.

2   To select specific cash flow sheets to display, click the **Curves** button. Select the curves in the Cash Flow Curves window and click **OK**.

Multiple cash flow sheets, table view
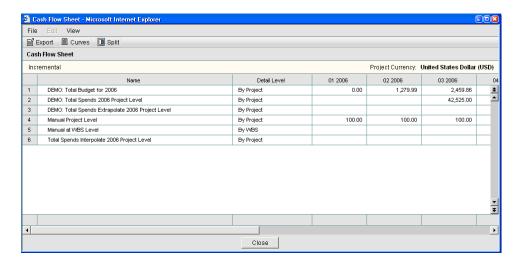
Figure 7-35 Table view, multiple cash flow sheets

Multiple cash flow sheets, graph view
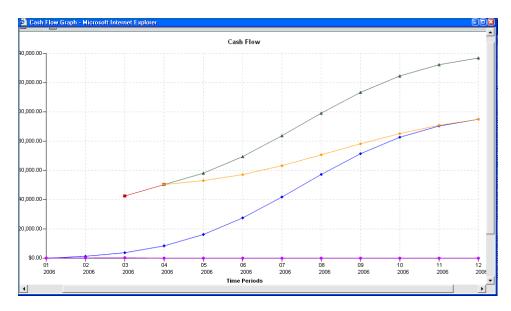
Figure 7-36 Graph view, multiple cash flow sheets

Cash Flow Curves window
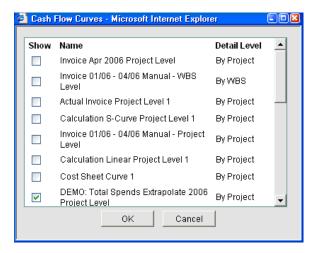
Figure 7-37 Cash Flow Curves window, select curves

Manage project or shell cash flow curves

To edit or view the cash flow properties

Select the cash flow sheet. From the File menu, click **Properties**. The Properties window opens. Properties can be edited to modify the cash flow curve.

To enter or edit cash flow values

Open the cash flow sheet and click inside a cell to enter the new value. Cash flow curve values are editable only if the following is true:

- The curve type is **Manual** on the General tab of the Properties window.
- The curve type is **Calculation** on the General tab of the Properties window, and the Curve Properties selection is **Manual entry intermediate points** (Options tab), which allows manual entry for select points in a calculation curve.

To delete a cash flow curve

Select the cash flow sheet and click **Delete**.

To edit the timescale

1 Navigate to the Project or Shell Cash Flow log.

2 Delete any listed cash flow sheets in the log by selecting the cash flow sheet and clicking the **Delete** button.

3 Click the **New** button. The Cash Flow Time Scale window opens.

4 Complete the Cash Flow Time Scale window and click **OK**.

Assign a data source to a project or shell cash flow curve

You can assign a data source to each project or shell cash flow curve. This allows you to plot the project or shell cash flow sheets on program-level and company-level cash flow sheets.

To assign a data source to a cash flow curve

1   In the Cash Flow log, select the cash flow curve and click the **Properties** button.

2   In the General tab, click the **Data Source** drop-down list and select a data source (Project or Shell Cash Flow 1 through Project or Shell Cash Flow 25). Select a different data source for each curve that you want to track. These will become available to plot in program- and company-level cash flow curves.

3   Click **OK**.

Refresh project or shell cash flow curve data

Refreshing cash flow sheets updates the data to reflect new data, for example, to reflect business process transactions added to the cost sheet after the last time the cash flow sheet was refreshed. You can refresh cash flow sheets manually or schedule an automatic refresh.

Note: *Refreshes can take several moments. While one or more cash flow sheets are being refreshed, the Last Update Column in the Cash Flow log will display In Process. While a refresh is in process, you will be prevented from performing many cash flow functions.*

To refresh project or shell cash flow curves
Navigate to the project or shell Cash Flow log and do one of the following:

• Select one or more cash flow curves to refresh, and click the **Refresh** button.

• Open a cash flow sheet and click the **Refresh** button.

WORKING WITH PROGRAM CASH FLOW SHEETS

Program-level and company-level cash flow curves work similarly. Program cash flow allows you to view curves across projects within a program. Company cash flow allows you to view curves across all projects. You can create multiple cash flow curves across all active and on-hold projects.

There are two types of program and company cash flow curves:

Logical: The cash flow data is rolled up from project-level cash flow sheets through data sources Cash Flow 1 to Cash Flow 25.

• **Program level:** Rollup from active and on-hold project that are part of a program definition.

• **Company level:** Rollup from all active and on-hold project.

Manual: You can manually enter data to plot graphs.

Access program cash flow curves

To access program cash flow curves
Select **Program > Cost Manager > Cash Flow**. The program Cash Flow log opens. The log is similar to the project cash flow log.

Create a program cash flow sheet

To create a program cash flow sheet

1   In the program Cash Flow log, click **New**. The Properties window opens.

2   Complete the Properties window as described below and click **OK**.

Rolling up of project and company cash flow data is based on the granularity of the curve defined at the project level. Following are the rules that will to be followed while rolling up data.

3   At the top of the sheet, you can view the number of projects rolled up versus the total number of projects. Click the link to view a bar graph view of the project data.

Program / Company Granularity	Project Granularity	Rollup Rule
Year	Year	Straight rollup
	Quarter	Add all quarters to derive year
	Months	Add all months to derive year
Quarter	Year	Do not roll up
	Quarter	Straight rollup
	Months	Add all months to derive quarter
Months	Year	Do not roll up
	Quarter	Do not roll up
	Months	Straight roll up

Program cash flow sheet
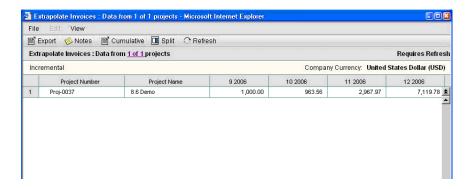
Figure 7-38 Example program cash flow sheet
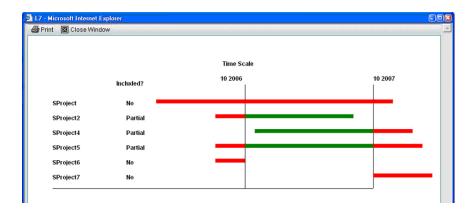
Figure 7-39 Example program bar graph view

Manage program cash flow curve properties

To access program or company cash flow curve properties

1   Navigate to:
    - **Programs > Cost Manager > Cash Flow**
    - **Company > Cost Manager > Cash Flow**

    The program or company Cash Flow log opens.

2   Click the **Properties** button. The Properties window opens.

3   You can change general information in the General tab or scheduled refresh information in the Schedule tab.

4   Click **OK**.
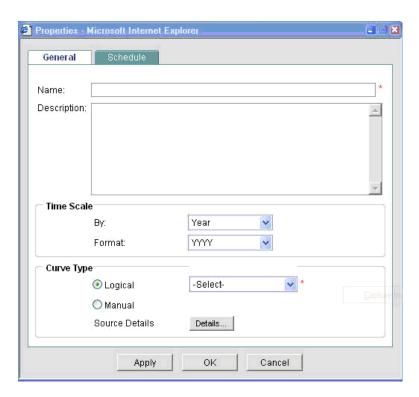
Figure 7-40 Program and company Cash Flow Properties window, General tab

Refresh program and company-level curves

Changes made to project cash flow curves are not reflected automatically on existing program and company cash flow curves. You must refresh program- and company-level curves to include the latest project data and recalculate the curves.

Program- and company-level curves will display the message Requires Refresh in the upper right corner of the Program Cash Flow window to indicate that a project-level curve has been modified.

You can refresh manually at any time. You can also schedule automatic refreshes.

To refresh program or company cash flow data manually

1   Navigate to the **Program Cash Flow** or **Company Cash Flow** log.

2   Click the **Refresh** button and choose **Now**.

To schedule data refresh for a single cash flow sheet

1   Navigate to the **Program Cash Flow** or **Company Cash Flow** log.

2   Select a cash flow sheet from the log and click the **Properties** button.

3   Click the **Schedule** tab.

4   Select the **Enable scheduled refresh** checkbox.

5   Select the **Frequency** and **Range of Recurrence** for the scheduled refresh.

6 Click **OK**.
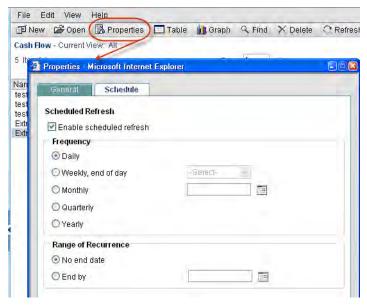
Figure 7-41 Program Cash Flow Properties window, Schedule tab

To schedule data refresh for all cash flow sheets

1 Navigate to the **Program Cash Flow** or **Company Cash Flow** log.

2 Click the **Refresh** button and choose **Set Frequency**. The Properties window, Schedule tab opens.

3 Complete the Schedule tab as described in "To schedule data refresh for a single cash flow sheet" on page 338 and click **OK**. This sets the refresh schedule for all listed cash flow sheets.

WORKING WITH COMPANY CASH FLOW SHEETS

Access company cash flow curves

To access company cash flow curves
Navigate to **Company > Cost Manager > Cash Flow**. The company Cash Flow log opens. The log is similar to the project or shell cash flow log.

Manage company cash flow curve properties

To edit or view the cash flow properties
Select the **Cash Flow** sheet. From the File menu, click **Properties**. The Properties window opens. Properties can be edited to modify the cash flow curve.

Refresh company level curves

Changes made to project or shell cash flow curves are not reflected automatically on existing program and company cash flow curves. You must refresh program- and company-level curves to include the latest project or shell data and recalculate the curves.

Program- and company-level curves will display the message Requires Refresh in the upper right corner of the Program Cash Flow window to indicate that a project- or shell-level curve has been modified.

You can refresh manually at any time. You can also schedule automatic refreshes.

To refresh program or company cash flow data manually

1   Navigate to the **Program Cash Flow** or **Company Cash Flow** log.

2   Click the **Refresh** button and choose **Now**.

To schedule data refresh for a single cash flow sheet

1   Navigate to the **Program Cash Flow** or **Company Cash Flow** log.

2   Select a cash flow sheet from the log and click the **Properties** button.

3   Click the **Schedule** tab.

4   Select the **Enable scheduled refresh** checkbox.

5   Select the **Frequency** and **Range of Recurrence** for the scheduled refresh.

6   Click **OK**.

To schedule data refresh for all cash flow sheets

1   Navigate to the **Program Cash Flow** or **Company Cash Flow** log.

2   Click the **Refresh** button and choose **Set Frequency**. The Properties window, Schedule tab opens.

3   Complete the Schedule tab as described in "To schedule data refresh for a single cash flow sheet" on page 340 and click **OK**. This sets the refresh schedule for all listed cash flow sheets.

Print cash flow curves

To print a cash flow curve

1   In the Cash Flow log, select a cash flow sheet and click the **Graph** button. The Cash Flow Graph window opens.

2   Click **Print**.

Export cash flow data

Once you have created the Cash Flow sheet, you can export the data to a local file system in a CSV format. You can export data from project or shell, program, or company cash flow sheets. You cannot import data into the cash flow sheet as you can with a cost sheet.

To export cash flow data

1   Open the Cash Flow Sheet.

2   Click the **Export** button.

3   Read the confirmation message and then click **Yes** to continue.

4   You may choose to open the file to review it before saving.

5   Click **Save**. A copy of the data is saved to your local drive in CSV format.

WORKING WITH EARNED VALUE

● ●

ABOUT EARNED VALUE (EV)

Earned value analysis is an industry standard designed to help project managers measure a project's progress, forecast its completion date and final cost, and determine schedule and budget variances. It can help to track whether a project is on schedule and on budget.

Unifier's Earned Value module is available in standard projects and WBS-based shells. It provides quantitative tracking information about project status using earned value analysis. It provides specific numerical measurements for reviewing progress as the project team advances through the work tasks allotted to the project schedule.

You can view earned value calculations and results through the Earned Value sheet for a project or shell. An earned value sheet must be created. Earned value calculations can be based on cost sheet and cash flow modules, or earned progress on schedule sheet activities.

Note: For details about schedule sheet settings and the accumulation and calculation of earned progress used for earned value, see the Schedule Manager chapter of the Unifier User Guide.

ABOUT EARNED VALUE SHEETS

You can create multiple earned value sheets per project or WBS-based shell. Each sheet can have either the cost sheet or any schedule sheet in the Schedule Manager as the source for the calculations. Each sheet can include multiple curves, including:

- **BCWS**: Budgeted Cost of Work Scheduled. This is the curve of the budget for the project. The budget can be based on cost or on unit of measure. In terms of cost, it is the total planned budget for the project. Contributors to this cost can be labor, material, equipment or any other cost. In terms of units of measure, it is the total units needed to complete the project. Units can be hours, linear feet, etc., depending upon the activity and the resources that are assigned to an activity.

- **BCWP**: Budgeted Cost of Work Performed. This is the means of assessing performance against the planned budget. It can help you determine whether you are behind, ahead of or on schedule. The budget is based on what you have planned for the schedule, so if the schedule slips, it affects the budget. BCWP calculations are based on the schedule sheet and captured from the progress log for activities and resources.

- **ACWP**: Actual Cost of Work Performed. These are actual costs incurred to perform project-related activities, such as payments to subcontractors or purchase of materials. If your actuals are higher than the budget, you may be over budget. If your actuals are under the budget, it is possible contractors are not submitting invoices.

- **EAC**: Estimate at Completion. This refers to the final cost of any other key quantity (for example, hours, feet of material, or other quantity) associated with any work breakdown structure (WBS).

- **Custom curves**: Create custom curves to generate Forecast, ETC and others.

Curve	Source = Cost Sheet	Source = Schedule Manager
BCWS	Derive budget data from a cash flow curve	Derive budget data from an active schedule sheet

BCWP	Derive from a cash flow curve	Calculate based on earned progress and earned amount information captured on schedule sheet activities
ACWP	Select Actual Costs from a cash flow curve or a BP cost sheet column	Same as cost sheet
EAC	Not applicable	Calculate forecast from actual completion information

Work package names appear on the sheet if the source is schedule manager, and one or more schedule sheets associated with EV curves are linked to a work package.

Display options

You can select display options, to display the curves in terms of cost or unit of measure (such as hours, linear feet, etc., as defined in schedule activity properties). See "Change the sheet display options" on page 361.

Views

You can also generate earned value data in different views, for example, grouped by work package. Access these views using the More Sheets option. You also view the worksheets used for the individual components and curves used in each earned value sheet (More Worksheets). See "Open additional sheet views" on page 357 and "View and work with worksheets" on page 358.

Access earned value sheets

Earned value sheets can be created for projects and shells, and are maintained in the Earned Value log, which is part of the Cost Manager.

To access earned value sheets

1 Open a project or shell.

2 In the navigator, navigate to **Cost Manager > Earned Value**. The Earned Value log opens.

Figure 7-42 Earned Value log

To open an earned value sheet

Double-click it from the log window, or select the sheet and click **Open**.

CREATING AND MANAGING EARNED VALUE SHEETS

This section describes how to create, edit and delete earned value sheets.

Create an earned value sheet

You can create as many earned value sheets as you need. They can be based on the cost sheet or any schedule sheet in the project or shell. You can create earned value sheets individually or by copying existing ones.

To create an earned value sheet

1   Open a project or shell and navigate to the earned value log.

2   Click the **New** button. The earned value Properties window opens.

3   Complete the **General** tab. On this tab, in addition to the sheet name and description, you define the source of the data used to calculate earned value, and the time scale to use to display sheet data. The field descriptions are described below.

4   Click **Apply**. Once you click Apply, the Timescale fields on the General tab will no longer be editable, and the Settings tab becomes available.

5   Click the **Settings** tab This tab allows you to add the components (such as BCWP, BCWS, ACWP, and custom curves) that will be used to calculate earned value. Details about defining these settings are found in "Define earned value settings" on page 345.

6   Click **OK**.

[EV Properties window, General tab](#)
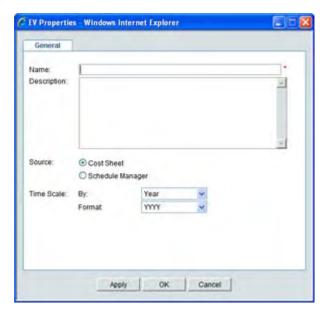
Figure 7-43 EV Properties window, General tab

In this field	Do this
Name	Name the earned value sheet.
Description	Enter an optional description. This description is searchable from the earned value sheet log.
Source	This option determines the source data for the sheet: • Cost Sheet: The data source will be the project/shell cost sheet and cash flow curves. • Schedule Sheet: The source of the calculations comes from schedule sheets. You can choose from any schedule sheet in the project or shell.
Time Scale	This setting determines the granularity of EV data that will be calculated based on source data. • By: The choices are Year, Quarter, Month and Week. • Format: Choose the format. The choices are determined by the By setting chosen.

EV Properties window, Settings tab

Figure 7-44 EV Properties window, Settings tab

This button	Does this
Add	Click to add a new curve to the list
Modify	Select a setting then click to modify
Remove	Select a setting and click to remove it from the list

Define earned value settings

On the Settings tab of the earned value sheet EV Properties window, you can add the components that will be used to calculate earned value. BCWS, BCWP and ACWP are required.

In addition, you can also add custom curves, which can be used to generate curves such as Forecast or ETC.

To add a component

1 On the Settings tab, click **Add**. The Select a Type window opens.

2 Click the Type pull-down and select a type.
   - **BCWS**: Budgeted Cost of Work Scheduled. You define the budget, which is dependent on whether the source is cost sheet or schedule manager.
   - **BCWP**: Budgeted Cost of Work Performed. You define progress, which is dependent on source cost sheet or schedule manager.
   - **ACWP**: Actual Cost of Work Performed. This is independent of source. Specify the cash flow curve or cost sheet column.
   - **EAC**: Estimate at Completion. Available when the source is schedule manager. Specify cost and start/finish information from the schedule manager.
   - **Custom**: Choose from the custom parameters (see "EAC (Source = Schedule Manager)" on page 350).

3 Click **OK**. The Properties window opens.

   The Properties window contents will depend on two things: The Source that you chose in the General tab (Cost Sheet or Schedule Manager), as well as the type that you chose in the Type pulldown.

4 Complete the Properties window. See the descriptions below for details.

5 Click **OK**. The entry will be added to the Settings tab of the earned value Properties window.

Note: *Adding settings will update the earned value sheet. This can take a few moments. The Last Update column on the earned value log will display an In Progress message while the sheet is being updated, and the sheet will not be accessible until the update is complete.*
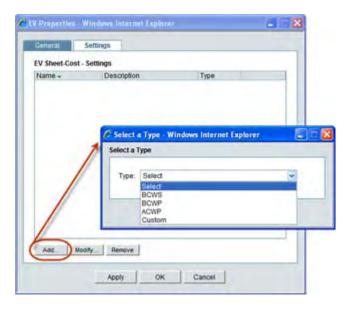
Figure 7-45 Add a component

BCWS (Source = Cost Sheet)

If you choose BCWS as the Type, and your Source is Cost Sheet, then you will define BCWS based on a cash flow curve.

Figure 7-46 BCWS Properties, source is cost sheet

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is BCWS
Budget	Click the pull-down. Select a cash flow curve defined in the Cash Flow module. The choices will include only those curves with the same Time Scale setting as that selected on the General tab of the EV sheet.

BCWS (Source = Schedule Manager)

If you choose BCWS as the Type, and your Source is Schedule Manager, Sheet, then you will define BCWS based on a one or more schedule sheets.
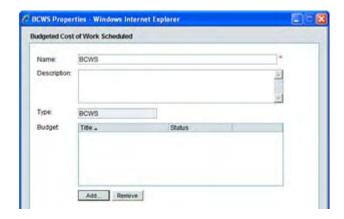
Figure 7-47 BCWS Properties: source is schedule manager

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is BCWS
Budget	You can add any number of active schedule sheets from the project or shell. • To add schedule sheets: Click the Add button. The Schedule Sheet picker opens. The list displays all active schedule sheets in the Schedule Manager for this project or shell. Select one or more sheets and click Open. • To remove a schedule sheet from the list: Select the sheet(s) to be deleted from the Budget list, and click the Remove button.

BCWP: (Source = Cost Sheet)

When the source is cost sheet, define BCWP based on a percent (%) column from the project/shell cost sheet.
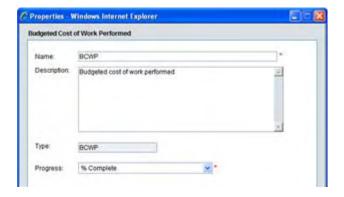
Figure 7-48 BCWP Properties: source is cost sheet

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is BCWP
Progress	Click the pull-down. The list displays columns on the project/shell cost sheet that are percent (%) columns.

BCWP: (Source = Schedule Manager)

When source is schedule manager, define BCWP based on activity and resource progress captured in a schedule sheet.
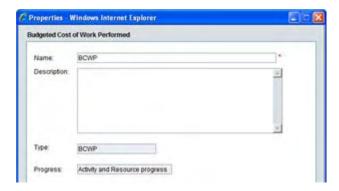
Figure 7-49 BCWP Properties: source is schedule manager

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is BCWP
Progress	There is one option: Activity and Resource Progress.

ACWP (Source = Cost Sheet or Schedule Manager)

The setup is the same when the source is cost sheet or schedule manager. You can define ACWP based on a cash flow curve or a cost sheet column.
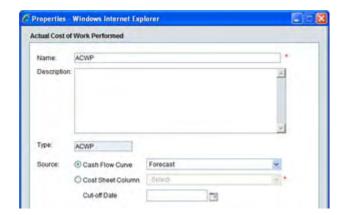
Figure 7-50 ACWP Properties: source is cost sheet or schedule manager

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is ACWP
Source	Choose one of the following: • Cash Flow Curve: The pull-down displays the cash flow curves in the project/shell that have the same granularity as defined for this EV sheet. • Cost Sheet Column: The pull-down displays cost sheet columns that have actual cost data derived from cost business processes, including formula columns that include business records in the formula. • You can also specify a cut-off date, which will be used to filter data retrieved from the column selected.

EAC (Source = Schedule Manager)

This is available only when the source is Schedule Manager.
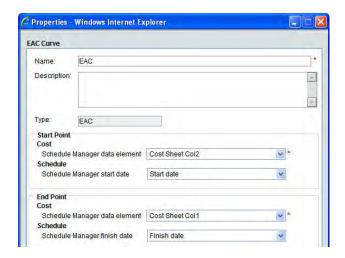
Figure 7-51 EAC Properties: source is schedule manager

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is EAC
Start Point	Choose the following (from the schedule manager activity attribute form): • Cost: Choose a data element that has been associated with the starting cost of the forecast. • Schedule: Choose the start date element from the schedule manager that is associated with your forecast information (e.g., Forecast Start Date). This date will be used if the calculation if the activity has not yet started. Once the activity starts, the calculation will default to the "progress as of date" if provided, or the actual start date.
End Point	Choose the following (from the schedule manager activity attribute form): • Cost: Choose a data element that can provide estimated completion cost value. • Schedule: Choose the finish date element from the schedule manager that is associated with your forecast information (e.g., Forecast Finish Date).

Create a custom earned value curve

You can create custom curves to generate other earned value calculations such as forecast or EAC. You must create a BCWS entry before you can create a custom curve. This is applicable when the source is either cost sheet and schedule manager.

Follow the procedure "Define earned value settings" on page 345 and choose Custom as the Type.

Custom Curve (Source = Cost Sheet or Schedule Manager)

Figure 7-52 Custom curve Properties. In this example, an EAC curve is created.

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is Custom
Curve Properties	This determines the shape of the curve that will be generated. Choose one of following options: • S-Curve: The system will generate the curve based on Sigma and Mu. The system will generate data points (intermediate points) for the curve. • Linear: This generates a straight line curve. The system generates data points for the curve. • Manual entry intermediate points: This generates a curve based on data you enter, distributed over the time period range of the curve.

Start Point	This determines the start point of the curve. You define the starting value (Data), and when the curve should start (Schedule).
	Data: Choose an option:
	• Zero: curve starts at zero.
	• Begin calculations at end of actual cost of work performed
	Schedule: Choose an option:
	• Manual Start Date: You can choose a start date for the curve in the Source Details window
	• Schedule Manager Start Date: Click the pull-down. This lists the date-type data elements that are on the Activity Attribute form. Choose which to use as the curve start date.
End Point	This determines of the end point of the curve. You define the end value (Data) and when the curve should end (Schedule).
	Data: Choose an option:
	• Manual: Allows you to enter cost data in the Source Details window.
	• Cost Sheet Column: Click the pull-down. This lists all columns defined on the cost sheet. The values that are in that cost sheet column will display in Cost column on the Source Details window.
	Schedule: Choose an option:
	• Manual Finish Date: You can choose a finish date for the curve in the Source Details window.
	• Schedule Manager Finish Date: Click the pull-down. This lists the date-type data elements that are on the Activity Attribute form. Choose which to use as the curve end date.
Source Details	This allows you to enter any manual information required to generate the curve.
	• Click the Details button. The Source Details window opens. The Source Details window is based on the other options selected in the Properties window.
	• See the following section for details of the Source Details.

Custom Curve: Source Details

Data displayed on the window is based on several options chosen during setup of the sheet:

- The source chosen on the General tab (cost sheet or schedule sheet)
  - Cost Sheet: All WBS codes on the cost sheet are listed
  - Schedule Manager: Depending on which schedule sheet(s) are selected for BCWS calculation, and whether any schedule sheet is linked to a work package, the WBS codes may be filtered by the WBS codes on the work package
- The budget option selected for BCWS entry
- Options selected on the custom entry

Fields on this sheet may be editable depending on the options you chose in the Properties window.

Note: *Clicking the Details button on the Properties window will save the curve, even if you later click Cancel to cancel out of the Properties window.*

Figure 7-53 Example custom curve, Source Details window

Column	Description
WBS Code	All WBS codes on the project/shell cost sheet are displayed, with one exception: If the schedule sheet(s) in the BCWS entry are associated with work packages, rather than the cost sheet, then only those WBS codes within those work packages will be displayed here. (Note that if at least one schedule sheet in the BCWS entry is associated with the cost sheet, this window will display all cost sheet WBS codes.)
WBS Item	The item, as defined on the cost sheet, displays for each code.
Cost	The behavior o f this column depends on what you chose in the Properties window for End Point >Data: • If you chose Manual, then you can enter cost data manually here. You can also import this cost data (see procedure below). You can later distribute this amount across the custom curve's worksheet. • If you selected a Cost Sheet Column, then the data that is in the column for each WBS code will display here. • Schedule Manager: Each activity on the schedule sheet can be associated with one or more WBS codes, and distributed based on % entered there.
Start	This column depends on the Start Point settings in the Properties window: • If you chose Zero (Data), and Manual Start Date (Schedule), then you can enter date manually. • If you chose Zero (Data), and selected a Schedule Manager start date (Schedule), then the column displays the earliest date across all activities for that WBS code. • If you chose *begin calculation at end of ACWP,* then the date is automatically calculated based on ACWP end period.
Finish	This column is based on the option chosen as the End Point Schedule: • If you chose Manual Finish Date, then you can manually enter a finish date for the custom curve. • If you chose Schedule Manager finish date, this date is taken from the schedule sheet finish date you chose in the Properties window.

To enter data in the Source Details window

1 Open the custom curve Source Details window:

For the earned value sheet, open the EV Properties window, Settings tab. Select a custom curve and click Modify, or create a new custom curve. In the custom curve Properties window, click the Details button.

2 Depending on the options defined in the custom curve Properties window, the Cost, Start and/or Finish Date fields may be editable across the WBS codes. Add this information as needed.

- Start is the starting date of the curve.
- End is the end date of the curve.
- If you enter a value in the Cost column, it will automatically display in the last column of the incremental view of the worksheet for the custom curve. You can then open the worksheet and distribute this cost amount across the other columns (and the other time periods) in the worksheet. (See "View and work with worksheets" on page 358.)

To import cost data into the Source Details window

1 Open the custom curve Source Details window:

For the earned value sheet, open the Properties window, Settings tab. Select a custom curve and click Modify, or create a new custom curve. In the custom curve Properties window, click the Details button.

2 Click the **Export** button and download the CSV file. Save the file to your local drive or open the file directly.

3 Enter the cost or date information in editable Start, End and/or Cost fields as applicable, depending on the entry settings you specified in the custom curve Properties window.

4 Save the CSV file.

5 In the Source Details window, click **Import**, and import the CSV file.

Modify earned value sheet properties

You can modify most of the Properties information on existing earned value sheets, including adding additional curves, entering source detail information, changing the sheet name, etc.

The following information cannot be modified on an earned value sheet: Source and Time Scale, as defined on the EV Properties window, General tab.

To modify earned value sheet properties

1 Open a project or shell and navigate to the Earned Value log.

2 Select a sheet and click the **Properties** button on the toolbar.

- Click the General tab to change general properties information.
- Click the Settings tab, then select a curve and click Modify to modify the settings for the curve.

Note: *If you rename a custom curve (in the Settings tab), the new name may not be reflected in the graphical display. The graph displays the curve names as they appear in the sheet as column*

> *names. If you rename a custom curve, be sure to rename the corresponding column name on the sheet (you may need to add the curve as a column in order for the new name to be reflected on the graph).*

Delete an earned value sheet

You can delete any earned value sheet.

To delete an earned value sheet

1 Open a project or shell and navigate to the Earned Value log.

2 Select a sheet and click the **Delete** button on the toolbar. Click **Yes** to confirm.

Set permissions on an earned value sheet

After creating an earned value sheet, you can determine which other project or shell team members can access it. These sheet level permissions can be assigned by the creator or a user with Full Access permission in the Earned Value module.

Sheet level permissions are setup on each earned value sheet in User Mode.

To assign permissions to an earned value sheet

1 Select a sheet in the Earned Value log.

2 Click the **Permission** button.

3 Add users or groups and assign permissions:
   • Modify Permissions: Allows the user to modify the permissions of the earned value sheet. Selecting this permission will select all permissions below.
   • Edit Data: Allows the user to edit earned value data, properties and columns.
   • View: User can view earned value data and curves.

4 Click **OK**.

WORKING WITH EARNED VALUE SHEETS

This section discusses working with the earned value sheets you have created:

View additional sheets and worksheets: When you create an earned value sheet, you can choose to display the data in additional sheet views, or to view worksheets that show the calculations for BCWS, BCWP and custom entry curves added to the sheet. Manual cost distribution can be done on custom curve worksheets, depending on the curve setup.

Display earned value data graphically: The information captured on the earned value sheet can be displayed on graphs.

Change display options: You can change the display to show information by cost data, by a chosen unit of measure (hours, linear feet, etc.), or for a particular period of time.

Add sheet columns: In addition to default columns, you can add your own formula columns to do earned value sheet calculations.

Save snapshots of data: This allows you to save snapshots of data at periodic interviews on the some sheet views.

Export earned value data: Some sheet views allow you to export the data on them to a CSV file.

Details about these procedures are found in the following sections.

Open additional sheet views

From an earned value sheet, more sheet views may be available, depending on the data source for the sheet (cost sheet or schedule manager).

If the source is cost sheet, the default *View by WBS Codes* is the only view option.

If the source is schedule manager, you can view additional sheets described below.

- **WBS Codes** is the default view when the EV sheet source is cost sheet or schedule manager. It displays EV data by WBS code in a flat list. It is applicable when Progress option on BCWP is "Activity % Complete."
- **WBS Codes - Group by Summary Codes**: The data in this view is grouped by summary WBS codes retrieved from the cost sheet. The summary codes show all levels that are defined in the cost sheet. It assumes that there are summary WBS codes. If the cost sheet is in flat mode, data is shown with leaf level WBS codes.
- **WBS Codes - Group by Work Package**: The data is grouped by work package, and then by summary WBS codes. This is applicable even if cost sheet is in flat mode. Summary rows show totals from leaf codes; work package summary rows show the totals per work package.
- **Earned Value Components**: In this view, data is grouped by earned value components. The rows are the components of the earned value sheet: BCWS, BCWP, ACWP, EAC. The columns are time periods based on the time scale for the sheet. Data is not totaled at the bottom of the sheet. Note the sliding scale in the upper portion of the sheet. This allows you to move the view of the sheet to display different time periods. Display Options allows you to change UOM (unit of measure) value only.
- **Schedule Sheet - Activities**: The activities displayed on this view are the activities defined in the schedule sheet. All activities are displayed regardless of whether progress entries have been made for them.
- **Schedule Sheet - Activities - Group by WBS Codes**: In this view, EV data is grouped by WBS code, and by activity associated with each WBS code.

For these additional sheets, you can create snapshots in the default WBS Codes view and the Schedule Sheet-Activities view. You can change the Display Options and export data from any view.

To view more sheets

1   Open the earned value sheet.

2   Click the **More Sheets** button. The More Sheets window opens. The window lists sheets that are generated along with the current sheet.

3   Select a sheet and click **OK**. The sheet opens.
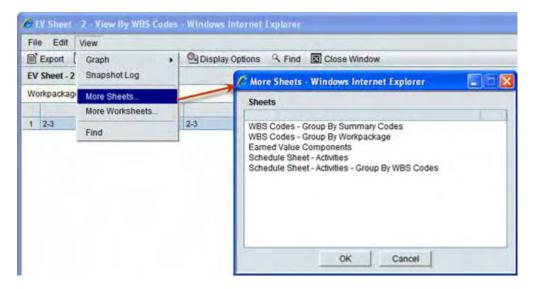
Figure 7-54 View More Sheets

View and work with worksheets

You can view worksheets for BCWS, BCWP, EAC as well as custom curves that have the "Manual entry intermediate points" option selected in curve properties. These worksheets display the BCWS, BCWP, EAC and custom curve calculations used in the earned value analysis.

BCWS, BCWP and EAC worksheets are read-only. Custom curve worksheets allow manual distribution of cost data in the Incremental view.

You can export data from worksheets. A graphical view is available for the BCWP worksheet. In addition, you can add notes to worksheets.

The More Worksheets option is available from the default WBS Codes view of the earned value sheet, and also the Schedule Sheet-Activities view available from the More Sheets option.

To open a worksheet

1   Open the earned value sheet.

2   Click the **View** button and choose **More Worksheets**. The More Worksheets window opens, listing BCWS, BCWP, EAC (if defined) and any custom curves.

3   Select a worksheet and click **OK**. The worksheet opens. The default view is incremental.

In incremental view, the columns are time based. The range is determined by the Start and Finish dates in the Source Details. Manual entry of cost data, if applicable, can be done in this view.

4   To view the cumulative view of the data, click the **Cumulative** button. (A graphical view of the Cumulative curve is available; click the **Graph** button from the Cumulative view.)

5   For BCWP, to view the graphical view, click the **Graph** button, then choose All Rows or Selected Row. For more information about displaying graphs, see "Custom curve worksheet, cost data distribution example" on page 360.

To add or view notes on a worksheet

1 Open the BCWS, BCWP, EAC or custom curve worksheet.

2 Click the **Notes** button. The Notes window opens. Any notes that have previously been added will display in the Notes field.

3 You can enter a note in the Notes field and click **Ok**.

To enter or distribute cost data in a custom curve worksheet

1 Open the worksheet for the custom curve.

   • If (in the custom curve properties) the Data option has been set to manual, then the values that you entered in the Cost field of the Source Details window for each WBS code display by default in the last column on the worksheet. This amount can be distributed among all time periods (columns) on the worksheet.

   • If the Data option has been set to Cost Sheet column, then when the earned value sheet is refreshed, actuals data will roll up from the cost sheet column directly to the last period (column) on the worksheet. You can distribute this amount manually across other columns.

2 To distribute this cost data, scroll to the last column on the worksheet. The value in the column is the total amount that needs to be distributed.

   You can click the **Find** button to search for a specific value in any column, including to search for a WBS code.

3 Double-click inside a cell to make it editable.

4 For each applicable WBS code, change the value in the last column to the correct distribution amount and press Enter. The rest of the original cost amount displays in the Undistributed Amount field at the top of the worksheet. If you distribute a total amount that exceeds the original total, the Undistributed Amount field displays a negative amount.

   For example, if the original value is $12,000 in the last column (either added manually in the Source Details window or rolled up from a cost column), and the distribution should be $1,000 per month over a 12 month period, then enter $1000 in the last column. The remaining $11,000 will display in the Undistributed Amount field. As you enter $1000 in each of the other month columns, this Undistributed Amount will decrease.

   After distribution, if the amount in the cost sheet column or the Cost field in the Source Details (depending on the source) either increases or decreases in amount, then when the earned value sheet is refreshed again, this difference will be reflected automatically in the last column of the worksheet. If there is a decrease that takes the last column to a value of zero, then the difference will be reflected in the next-to-last column.

5 Click **Save** to save the worksheet.
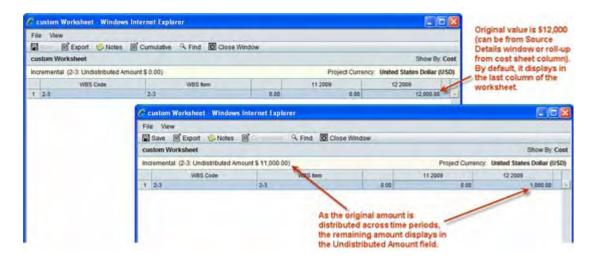
Figure 7-55 Custom curve worksheet, cost data distribution example

Display earned value data as a graph

You can view a graphical representation of earned value by clicking the Graph button from the Earned Value log window or from an earned value sheet. This is available for the default earned value sheet and additional sheets available through the More Sheets option. It is also available on the BCWP worksheet.

You must have Adobe Flash Player installed on your system to view earned value graphs.

To display the earned value sheet as a graph

1   Open the earned value sheet.

2   Click the **Graph** button and select one of the following:

   • All Rows: Shows graphical representation of the sum of all rows on the sheet.

   • Selected Row: Shows graphical representation of the row that is currently selected on the sheet (summary or leaf row).

Note: *The graph displays the names of the curves as they appear as column names on the sheet. If you change the name of a custom curve, you must also change the column name in order for the name change to display on the graph.*

        The graphical display will also automatically include any custom curves you have added, even if you have not added them as columns on the sheet. You can filter which curves to display.

To filter which graphs are displayed

1   Click the **Filter** button. The Filter Graphs window opens.

2   Select the graphs that you want to display and click **Ok**.

To change the zoom level of the graph
Click **Zoom** and choose Week (W), Month (M), Quarter (Q) or Year (Y).

To print the graph

Click the **Print** icon on the upper right corner of the sheet.

Change the sheet display options

The display options allow you to view earned value data in a variety of ways. You can view data:

• by cost data

• by a chosen unit of measure (such as hours, linear feet, etc.)

• for a particular period of time

Display options are available on the default WBS Codes view, as well as the other views available through More Sheets, with one exception: the Earned Value Component view cannot set a time period.

You can change the display options on any of the views available through the More Sheets option. If you set the display options on the default view, then open another sheet through More Sheets, the display option settings will be in effect when the second sheet is opened.

To change the display options

1   Open the earned value sheet.

2   On the toolbar, click the **Display Options** button. The Display Options window opens.

3   Choose a Show By option:

   • Cost: this is the default display, showing the EV sheet using cost data

   • UOM: this will display EV data by unit of measure, such as hours. This list is in the Unit of Measure data definition, such as hours, feet, etc.

   Note: UOM is not available if sheet source is the cost sheet. It is also not available if source is schedule sheet and the BCWP Progress is "Activity % Complete."

4   In the Display as of field, click the data picker and choose a date. This setting is optional. If you choose a date, the system will use the date as a cut off date and will show earned value data as of that date. If you do not select a date, then the display will default to the "Last Update Date" of the EV sheet.

   Choose a date that is no later than today's date, as you cannot choose a date in the future, and no earlier than the earliest date for which data is available across the curves.

   Note: This option is not available if sheet source is the cost sheet. It is also not available if source is schedule sheet and the BCWP Progress is "Activity % Complete," This option is also not available for the Earned Value Component view, as the columns of this sheet are time based.

5   Click the **Refresh** button. This will refresh the sheet to reflect the new display options.

Add a column to the earned value sheet

In addition to the system defined columns that are added to the earned value sheet automatically (BAC, BCWS, BCWP, ACWP, EAC), you can create columns for your own formulas.

You can define additional columns on a sheet when:

- Source is cost sheet, the display view is the default WBS Codes view
- Source is schedule manager, and the display option is set to Show By: Cost.

To add a column to the earned value sheet

1 Open the earned value sheet.

2 Click the **Columns** button. The Column Log window opens.

3 Click **New**. The Column Properties window opens.

4 Complete the fields and click **OK**.

Note: *You can create formulas based on any of the columns on the earned value sheet.*
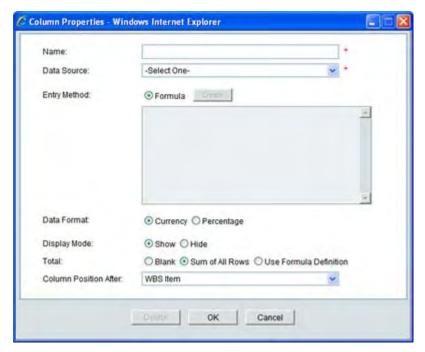
Figure 7-56 Earned value Column Properties window

In this field	Do this
Name	Name the column.
Datasource	Select a data source. Options are • Earned Value 1 to 25. Allows you to define your own formulas • Custom curves, BAC, BCWS, BCWP, ACWP, EAC are default columns that cannot be edited or deleted.
Entry Method	The sheet accepts formulas only. Click **Create** to create a formula.
Data Format	Choose **Currency** or **Percentage**. This defines how the value is displayed on the sheet.
Display Mode	Choose to **Show** or **Hide** the column on the sheet.

Total	Choose how to display the summary row, which is the last row for the column: **Blank** to leave the summary row blank; **Sum of All Rows** to add up all the rows; or **Use Formula Definition** to apply the columns formula to the last column (based on values in other summary rows).
Column Position After	Choose a column. The new column will be placed after the selection.
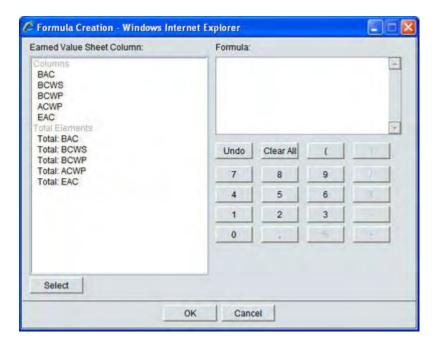
Figure 7-57 Earned Value Formula Creation window

Example earned value formulas

Following are some examples of earned value definitions and formula columns that can be added to the earned value sheet. For the examples below, we will start the following values:

- BAC = $1,000
- BCWS = $600
- BCWP = $400
- ACWP = $750
- EAC = $1800

Cost Variance

Cost Variance (CV) is the difference between a task's estimated or budgeted cost and its actual cost. A negative variance indicates the project or shell is over budget.

CV = BCWP – ACWP

Example: $400 – $750 = –$350

Scheduled Variance

Scheduled Variance (SV) is the difference between the current progress and the scheduled progress of a task, in terms of cost. It is a comparison of the amount of work performed during a given period to what was scheduled to be performed. A negative variance means the project or shell is behind schedule.

SV = BCWP – BCWS

Example: $400 – $600 = –$200

Cost Performance Index

Cost Performance Index (CPI) is the ratio of budgeted costs of work performed to actual costs of work performed. A value of less than 1 (less than 100%) indicates that the project or shell is over budget, and you are getting less work per dollar than planned.

CPI = BCWP/ACWP

Example: 400/750 = 0.53 or 53%

Scheduled Performance Index (SPI)

Schedule Performance Index (SPI) is the ratio of budgeted costs of work performed to budgeted costs of work scheduled. A value of less than 1 (less than 100%) indicates that the project or shell is behind schedule.

SPI = BCWP/BCWS

Example: 400/600 = 0.67 or 67%.

Cost Schedule Index (CSI)

The Cost Schedule Index (CSI) reflects the relationship between CPI and SPI. The CSI value should be close to 1.0. The farther the value from 1.0, project or shell recovery becomes more difficult to achieve.

CSI = CPI x SPI

Example: 0.53 x 0.67 = 0.3551

To Complete Performance Index (TCPI)

The To Complete Performance Index (TCPI) is the ratio of the work remaining to be done to funds remaining to be spent as of the status date. A TCPI value greater than 1 indicates a need for increased performance; less than 1 indicates performance can decrease. This helps determine how much of an increase in performance is necessary on the remaining project or shell tasks to remain within budget.

TCPI = (BAC - BCWP) / (BAC - ACWP)

Example: ($1,000 – $400) / ($1,000 – $750) = 2.4

Variance at Completion (VAC)

VAC is the difference between the BAC) and the EAC.

VAC = BAC – EAC

Example: $1,000 – $1,800 = –$800

Save a snapshot of the earned value sheet

You can save a snapshot copy of the default WBS Codes view of the earned value sheet, as well as the Schedule Sheet-Activities view available through the More Sheets option.

To save a snapshot copy

1 Open the earned value sheet.

2 Click the **File** menu and choose **Create Snapshot**.

3 Enter a title for the snapshot and click **OK**.

To view a saved snapshot

1 Open the earned value sheet.

2 Click the **File** menu and choose **Open**. The Snapshot Log opens.

3 Select a snapshot and click **Open**.

Export earned value data

You can export a CSV file with the earned value sheet data of any view of the earned value sheet, and any worksheet.

To export the earned value sheet as a CSV file

1 Open the earned value sheet.

2 Click the **Export** button. Save the CSV file to your local drive and click **OK**.

Refresh earned value sheets

You can manually refresh earned value sheets so that they reflect the latest data, depending on their source: information from cost sheet columns or cash flow curves, or information such as earned progress from schedule sheets. Earned value sheets are automatically refreshed if you make changes to the Properties window, Settings tab.

To refresh an earned value sheet

1 Select a sheet in the Earned Value log.

2 Click the **Refresh** button.

As data is refreshed, the Last Update column in the log will display In Progress. This may take a few moments. When the update is complete, the current date will display in the column. You will not be able to access the sheet while the update is in progress.

WORKING WITH A GENERIC COST MANAGER

A Generic Cost Manager captures cost-related activities for a configurable shell. These include costs like:

• Rent
• Lease payments
• Landscape care
• Building maintenance and repair
• Remodel of building interiors

With this manager, you can capture and view cost transaction information based on a timescale, such as monthly, quarterly or yearly. Each configurable shell can have one Generic Cost Manager.

Most of the functionality for the Generic Cost Manager is the same as that for the standard Cost Manager. Rather than re-document all of the cost management sheet functionality that is common between the Generic Cost Manager and the standard Cost Manager, this section documents the differences between the managers, and tell you how to use that functionality in context of the task you will be performing.

Note: *The names of the Generic Cost Manager, the various shells and subshells, and the generic cost sheet you will work with are determined by the names defined in uDesigner. For documentation purposes in this chapter, this manager is referred to as the Generic Cost Manager.*

The Generic Cost Manager:

• Defines a code structure that can be used to capture cost-related activities for a configurable shell.
• Tracks and rolls up costs to upper management levels
• Enables interaction with cost data
   • Operating budgets (monthly, quarterly, yearly)
   • Projects with life cycles that span over extended time
   • Costs covering the entire life cycle of the product/operation
   • Transactions based on timescale
   • Transactions in varying currencies

DATA SOURCES FOR GENERIC COST SHEETS

The Generic Cost Manager uses information in cost sheets that is manually entered, calculated, or comes from Generic Cost BPs. The difference between the Generic Cost Manager and the standard Cost Manager is that the data used in the Generic Cost Manager comes from shells and subshells, not from projects.

The Generic Cost Manager uses specific cost BPs as a data source. These BPs have the type cost and the classification Line Items with Multiple Codes.

WORKING WITH GENERIC COST SHEETS

The following procedures discuss how to access and work with generic cost sheets. The generic cost sheet is created from a template.

Open a generic cost sheet

To open a generic cost sheet

1   In the Navigator in User Mode, navigate to *shell* **> Configurable Manager > Generic Cost Manager > Generic Cost Sheet**. The Generic Cost Sheet log opens.
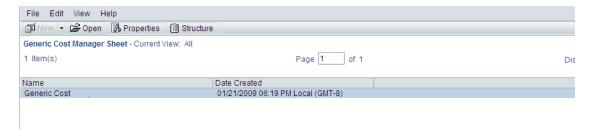
Figure 7-58 Generic Cost Manager log

2   Select the cost sheet from the log and click **Open**. The generic cost sheet opens.
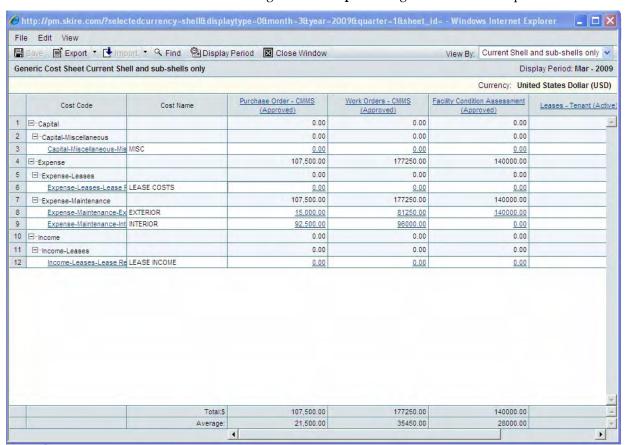
Figure 7-59 Generic Cost sheet, example

You work with a generic cost sheet in the same way as a standard cost sheet. The difference is the data in the generic cost sheet comes from shells and subshells rather than from projects. The first two columns are displayed by default. The view is fixed, and there is no split screen

capability. See "Working with Project or Shell Cost Sheets" on page 265 for details on working with cost sheets in general.

Viewing data for shells and subshells in a generic cost sheet

The generic cost sheet displays transactional data by period and shell level. In the context of working with the generic cost sheet, you can filter the cost data you are viewing by shells or subshells. The generic cost sheet is accessed from the Shell > Configurable Managers > Generic Cost Manager > Generic Cost Sheet log. You can use the shell or subshell filter in combination with the timescale selector documented in the next section to create various views in your spreadsheet based on shell or subshell and time period.

To view generic cost sheet data by shell or subshell

1   In User mode, navigate to *shell* **> Configurable Managers > Generic Cost Manager > Generic Cost Sheet**. The Generic Cost Sheet log opens.

2   Open the Generic Cost Sheet you want to work with by double-clicking the cost sheet name or by selecting the cost sheet name in the log and then choosing **File > Open**.

3   In the View By selection list, choose one of the following:

   • **Current Shell only:** Data from the current shell you have selected. Manual column data is editable in the Current Shell only view.

   • **Current Shell and Subshells only:** Data from both the current shell and its subshells.

   • **Subshells only:** Data from the subshells of the current shell.

In Generic Cost Sheet views, data is rolled up from the current shell and subshells. When data is rolled up from subshells, the generic cost sheet under a shell can roll up data from other shells that are created as subshells and their subshells. The Current Shell and subshells only and Subshells only views support this rollup. For example:

• North Region (shell)
   • Property A (subshell)
      • Building 101 (subshell)
      • Building 102 (subshell)
   • Property B
      • Building 201
      • Building 202

In this example, the North Region Generic Cost Sheet will have data from Property A, Property B, Building 101, Building 102, Building 201, and Building 202. Property A has data from Building 101 and Building 102. Property B has data from Building 201 and Building 202.

Also, data from a subshell to its parent shell can only roll up if the codes match. For example,

• North Region (Shell)
   • Property A (1000–1001: $500)
      • Building 101 (1000–1001: $500)
      • Building 102 (1000–1002:$200)

In this example, Building 101 will roll up to Property A as the codes match (1000–1001). Building 102 will not roll up because the codes are different (1000–1002). Parent and child shell cost codes must match for roll up to occur. Timescale and column definition must also match across the shells and subshells.

Also, all subshells that will roll up must have the same currency as the parent shell. If all of the subshells and the current parent shell have the same currency, the data displays in that currency. If at least on subshell has a different currency, the data displays in the Base Currency. A confirmation message alerts you to this currency display.

While rolling up, only parent shell generic cost sheet codes should be considered. This is applicable under all views.

Change the timescale on a generic cost sheet

With the Generic Cost Manager, you can capture and view cost transaction information based on a timescale, such as quarterly or yearly. For example, you might be working with time-based transactions such as lease payments. In the context of working with the generic cost sheet, you can change the timescale on the cost data with which you are working. The generic cost sheet is accessed from the *shell* > Configurable Managers > Generic Cost Manager > Generic Cost Sheet log. You can use the shell or subshell filter described in "To view generic cost sheet data by shell or subshell" on page 368 in combination with the timescale selector to create various views in your spreadsheet based on shell or subshell and time period.

To change the timescale on a generic cost sheet data by shell or subshell

1   In the Navigator in User Mode, open the *shell* **> Configurable Managers > Generic Cost Manager > Generic Cost Sheet**. The Generic Cost Sheet log opens.

2   Open the cost sheet you want to work with by double-clicking the cost sheet name, or by selecting the cost sheet name in the log and then choosing **File > Open**.

3   Click on the **Display Period** button. The Display Period window opens.

4   Select a date range (Monthly, Quarterly, or Yearly) and the time period to go with the range. The data for the timescale you select is displayed in the cost sheet. The default view is Monthly, and shows the current month. Data is always stored in months. Changing the timescale units updates the totals based on the period and the calendar year.

    Monthly view data is editable in the manual columns only, and in the Current Shell view only. Quarterly and Yearly views are read-only.

Modify shell and base exchange rates for manual data entry

Data entered manually (directly) on a generic cost sheet should have a rate associated with it. This is because any transaction that occurs under a shell will be calculated and stamped with two currency rates: the shell currency and Base Currency. The rate in this case will be the conversion rate between the shell currency and Base Currency (the Base Currency is the company currency).

When you modify the exchange rate the new rate takes effect for the currency month, and applies until you change it again. You can revert it to the rate stored in the shell properties. The modified exchange rate applies only to data you enter manually on the sheet. It does not affect data that is entered through business processes, which uses the exchange rate from shell properties.

To change the exchange rates on a Generic Cost Sheet for manual data entry

1   In the Navigator in User Mode, open the *shell* **> Configurable Managers > Generic Cost Manager > Generic Cost Sheet**. The Generic Cost Sheet log opens.

2   Open the cost sheet you want to work with by double-clicking the cost sheet name, or by selecting the cost sheet name in the log and then choosing **File > Open**.

3   Choose **Edit > Exchange Rate**. The Exchange Rate for manual data entry window opens.

4   Choose the rate you want to change and enter the rate. Click **Refresh** to revert to the shell property exchange rate as needed. The original exchange rates were set up by the Company Administrator.

5   Click **OK**.

To view exchange rate history

1   Navigate to the Generic Cost Sheet.

2   You can view exchange rate history for the cost sheet by choosing **View > Exchange Rate History**.

To view the data in either the shell or Base Currency

1   Navigate to the Generic Cost Sheet

2   Choose **View > Currency > Shell Currency** or the Base Currency to view the data in either of these currencies.

Export and import Generic Cost Sheet data

To export Generic Cost Sheet data

1   In the Generic Cost Sheet, click the **Export** button.

2   Select the columns to export. These must be manual entry columns only. You can export columns from the current shell only, with the amounts displayed in the shell currency, and based on the display period.

3   Read the confirmation message and then click **Yes** to continue.

4   You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.

5   Click **Save** and specify the location in which to save the CSV file.

> **Note:** *If you open the CSV file, you will see that it contains notes regarding modifying the columns and data in the exported file for reimporting into a cost sheet. Follow the notes embedded in the CSV file for modifying columns and data in the exported file.*

Import Generic Cost Sheet data

You can shell cost detail information into a cost sheet manual entry column from a comma-delimited-value (CSV) file, such as a Microsoft Excel spreadsheet saved in CSV format.

To import Generic Cost Sheet information

1   In the Generic Cost Sheet, click the **Import** button. You can import from the current shell only. Import exception errors can occur if the cost code is not included in the import file, or if the combination of the cost code and effective date is repeated.

2   Browse to the CSV file to import, select it, and click **OK**.

WORKING WITH GENERIC COST BUSINESS PROCESSES

The Generic Cost Manager can use generic cost BPs as data sources. These BPs are created in uDesigner. These generic cost BPs work only with the Generic Cost Manager, and also only in the context of a shell. The possible Generic cost BP types are:

• **Generic:** Reference against company-level commit; enforce against company-level commit amount.

• **Transfer:** Transfer value from one code to another.

• **Base Commit:** Creates an entry in the Commitment Summary. Works in conjunction with change commit and general spends generic cost BPs. Reference against company-level commit; enforce against company-level commit amount. Click the **Commitment Summary** button to access the Commitment Summary.

• **Change Commit:** Works in conjunction with base commit and general spends generic cost BPs. Updates the Commitment Summary. Reference against company-level commit; enforce against company-level commit amount. Click the **Commitment Summary** button to access the Commitment Summary.

• **General Spends:** Works in conjunction with base commit and change commit generic cost BPs. Updates the Commitment Summary. Click the **Commitment Summary** button to access the Commitment Summary.

• **Lease:** Works in a shell to manage lease payments and payment history.

View and edit the Commitment Summary

When a base commit record goes to Terminal status, it creates an entry in the Commitment Summary for the shell. When change commit and general spends records go to Terminal status, they update the associated base commit record in the Commitment Summary. If you have the appropriate permissions, you can view and edit the Commitment Summary.

To view and edit a Commitment Summary for a shell

1   In User mode, navigate to *shell* > **Cost Manager** > **Commitment Summary**.

2   In the Commitment Summary log, select the Commitment Summary and click **Open**.

3   Click **Create Structure** to add columns to the sheet.

4   To view or edit the sheet properties, choose **Edit > Properties**. In the General tab, enter a unique name and an optional description. In the Options tab, enter the following column names: **Ref**, **Cost Code**, **Code Name**, **Breakdown**, and **Description**.

   Depending on the design in uDesigner, some columns may not display in the Commitment Summary sheet.

5   Click **OK**.

Drill down from the Commitment Summary to related BPs

You can view BP information for the various entries in the Commitment Summary.

To drill down from the Commitment Summary to related BPs

1 In User mode, navigate to *shell* **> Cost Manager > Commitment Summary**.

2 In the Commitment Summary log, click the BP reference in the Commitment Summary. The Cell Detail window opens.

3 Click the **Close Window** button when you are done viewing the BP information.

8 SCHEDULE MANAGER

In this chapter

- *Working with schedule sheets*
- *Creating a master schedule sheet*
- *Working with the Gantt chart*
- *Working with activity sheets*
- *Working with scope management*
- *Entering and viewing cost data associated with a schedule sheet*
- *Setup progress and earned progress data accumulation and calculation*

ABOUT THE SCHEDULE MANAGER

The Schedule Manager helps you manage project or shell and program schedules. You can create a **Project/Shell Schedule Sheet** that is customized to the project's or shell's needs. Once these sheets are created, you can then use them to create project/shell activities and tasks, assign resources to tasks, create relationships between activities, track schedule progress and variables, and calculate the schedule's critical path.

In Unifier, you can also import project schedule records from Primavera Project Planner® or Microsoft® Project. These external project schedules can provide additional detail or supporting schedule information; for example, resource information, or subcontractor or vendor schedules. Imported schedules are editable within Unifier, and the data can be used in reports.

The Schedule Manager presents schedule activities as interactive Gantt charts, where you can:

- Zoom in to see tasks at the day, week, or month level
- Move activities and add dependency relationships, and automatically update the dates on the schedule
- Create critical path calculations that will flag activities that, if delayed, can cause the schedule to go beyond the planned project end date

Using Unifier's snapshot feature, you can take a "picture" of the schedule sheet at any point in time. Using the Schedule Manager's baseline function, you can measure progress and determine payments against original estimates; and with the tracking Gantt feature, you can compare schedule dates, such as baseline estimates against the actual schedule.

If you copy activities from one schedule to another, Unifier will immediately notify you if the change will create a schedule conflict so that you can make corrections as you work. Each change in the Schedule Manager creates a record in Unifier, which is useful for auditing purposes. An audit report of these records shows detailed information on dates, events, actions, and old values versus new values, along with the user or proxy user who performed the action.

Each project/shell can have multiple schedule sheets, and one master schedule sheet. This master sheet drives project start and end dates, tracks the project's progress, and serves as the interface between the Schedule Manager and other Unifier modules. In particular, the master schedule updates resource assignment information in the Resource Manager, which affects timesheets and resource utilization figures; and it integrates cost items on the schedule with the Cost Manager. Unifier users can refresh resource rates on the schedule sheet and post the new rates to the Cost Manager, update the cost sheet with assignment costs, and refresh costs on the sheet to recalculate labor costs and post them to the cost sheet.

Features include the following:

- Fully configurable activity attributes form
- Activities and Gantt chart on the same schedule sheet
- Interactive Gantt chart with ability to drag activity end dates and link activities
- Tracking Gantt chart
- Filters for activities
- Baselines for schedule sheets and activity sheets
- Activity update
- Ability to create one or multiple interactive schedule sheets for the same project or shell
- Integration of Schedule Manager with the Resource Manager, enabling resource loading of schedule activities

- Multiple WBS codes for each activity to capture activity costs, such as labor, non-labor, and fixed costs
- Cut and paste and copy and paste of rows in a sheet
- Update of schedule sheets from linked templates
- Critical path calculation and display
- Streamlined and enhanced integration and interaction between Unifier's Schedule Manager and Primavera and Microsoft Project
- Activity progress tracking and percentage of work completed per assigned resource
- Works with shells that have the WBS cost type
- Scope Management, with the ability to launch business processes from activities and automate schedule management.
- Budget and progress settings, and the ability to work with progress and earned progress data

The Schedule Manager is available for projects or WBS-based shells.

This chapter discusses working with schedule sheets that have already been created and set up. This includes adding columns, adding rows (activities), and defining activity properties such as task dependencies, associating activities with WBS codes. Adding resources to tasks is discussed in this chapter. For details about creating schedule sheets, adding rows and columns, and defining activity properties, see the *Unifier Administration Guide*.

WORKING WITH THE SCHEDULE MANAGER

The Schedule Manager is available in Projects (Standard) and project (WBS-based) shells.

WORKING WITH SCHEDULE SHEETS

About schedule sheets

You can create schedule sheets for a project or shell. You can mark one of them as the master schedule sheet. The master schedule sheet is marked in bold and does the following:

- Drives activity start and end dates, resource assignments, and resource availability
- Tracks progress and resource assignment information to other modules in Unifier

Program schedule sheets are created automatically in the program Schedule Manager.

On the right pane of the sheet is the Gantt chart. The Gantt chart is a graphical representation of the project or shell schedule. Activities are shown as bars, which are aligned with activities in the left pane. The activity bar is drawn with the start date, finish date, and duration elements of the activity. The Gantt chart is refreshed automatically when any changes are made to activities.

- **Duration:** The amount of time needed to complete an activity. It is the date difference between the finish date and start date.
- **Milestone/Milestone Bar:** An activity that represents a significant date, such as a hand-over date or a deadline. Milestones usually have zero duration.

Note: *The Schedule Manager works with WBS cost type shells, but does not work with generic shells.*

Access project or shell schedule sheets

You can have any number of schedule sheets. There is one master sheet, which appears in bold in the log. The master schedule sheet drives the activity start and finish dates. You can use it to track progress and resource assignment information to other modules in Unifier.

To access project or shell schedule sheets

1   In User Mode, select **Projects tab> project > Schedule Manager > Schedule Sheets** or **shells tab > shell type > shell instance > Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.

2   By default, the log lists all active schedule sheets. To view all active and inactive sheets, click the **View** menu and choose **All**.

   Note: If you have the View All Sheets permission on the Schedule Manager node, you can view all sheets in the log, across multiple project or shell schedules. You can open these sheets and view the data even if you do not have permissions pertaining to individual sheets. However, you cannot modify the viewable sheets unless you have the Edit Data or Edit Data and Structure permissions for particular sheets.
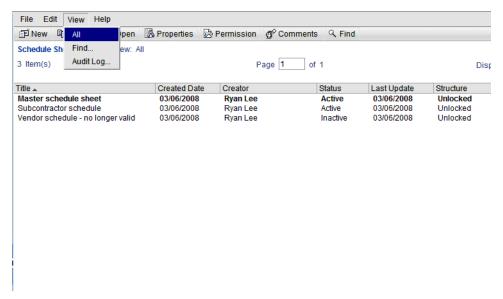
Figure 8-1 Schedule Manager log (view of all active and inactive sheets)

Search for schedule sheets

To search for a schedule sheet in the log

1   In User Mode, select the project or shell, and select **Schedule Manager > Schedule Sheets**.
    The Schedule Sheets log opens.

2   Click the **Find** button. The Find box opens at the top of the log.

3   Click the **Search By** drop-down menu and enter the field to search by.

4   Enter search criteria in the **Search for** field.

5   Click **Search**.

Create a project or shell schedule sheet

You can create a project or shell schedule sheet in the following ways:

- Manually
- Copying from a template (only active templates are listed)
- Copying from another project or shell schedule sheet (only active sheets in the log are
  listed)

Note: *For information about data mapping, importing Microsoft Project files, and integrating Primavera
files, see the Unifier Administration Guide.*

Schedule sheets can also be created when you create the project or shell from a project or shell
template and by importing.

This section discusses creating a new sheet by copying from a template or another sheet. For
details about creating and setting up schedule sheets manually, see the *Unifier Administration
Guide*. Importing schedules is discussed later in this chapter.

You can have any number of schedule sheets in a project or shell. You can designate one sheet as a master schedule sheet, which appears in bold in the log. The master schedule sheet drives the activity start and finish dates, and allows you to assign resources to activities. You can use it to track progress and resource assignment information to other modules in Unifier.

Note: *You may want to set up the schedule sheet before selecting it as the master sheet. Once you select the sheet as the master sheet, it cannot be deselected.*

CREATING SCHEDULE SHEETS

To create a project or shell schedule sheet manually

1   In User Mode, select the project or shell, and select **Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.

2   Click **New**. The Schedule Properties window opens.

3   For further details, see the *Unifier Administration Guide*, Schedule Manager Setup, for detail on creating a schedule sheet template, which is the same process as creating a new schedule sheet.

To create a project or shell schedule sheet by copying from a template

1   In the Schedule Sheets log, click **Copy > Template**.

2   Select the template to copy and click **Open**.

3   Complete the Schedule Properties window.

To create a project or shell schedule sheet by copying another sheet

1   In the Schedule Sheets log, click **Copy > Template**.

2   Select the schedule sheet to copy and click **Open**.

3   Complete the Schedule Properties window.

Define sheet-level permissions

Sheet-level permissions can be assigned by the creator or a user with full-access permission. Sheet-level permissions are set up on each project or shell schedule sheet on the user side. Sheet-level permissions are supported only on project- or shell-level sheets.

To assign permissions to a schedule sheet

1   Select the schedule sheet in the Schedule Sheets log.

2   Click the **Permission** button.

3   Add users or groups and assign permissions:
   • **Modify Permissions:** Allows the user to modify the permissions of a schedule sheet. Checking this permission will check all permissions below.
   • **Edit Data:** Allows the user to edit the sheet, including data, columns, and rows, cut and paste activities. Users that have the Edit Data permission can import data. They can also edit Activity Progress and refresh the schedule sheet.

- **Edit Data and Structure:** Allows the user to set and clear baselines on schedule sheets and Activity Sheets; also to copy and paste activities. Enables users to add or remove linked schedule sheet templates. Also enables users to edit data element level restrictions on activities on a schedule sheet.

  Users with the Edit Data and Structure permission can edit these activity progress related components:
  - Options tab of the Schedule Sheet Properties
  - Budget and Progress Setup (schedule sheet level or activity level)
  - Activity Progress
  - Activity Progress Log
  - Schedule sheet refresh
- **View:** Allows the user view-only access to the sheet. Automatically granted if any of the permissions above are granted. Can also view the Linked Template window.

4 Click **OK**.

Create a master schedule sheet

You can mark a schedule sheet in a project or shell and project or shell template as the master schedule sheet. This will drive start and end dates. Use care: Once you select a schedule sheet as the master, it cannot be deselected.

To mark a sheet as the master schedule sheet

1 In the Schedule Properties window, select the **Create as master schedule sheet** checkbox. Once you select this, it cannot be deselected.

2 Click **Yes** to confirm.

Lock or unlock the schedule sheet structure

You can lock a schedule sheet. This locks the columns and activity rows, preventing editing of the sheet structure.

To lock or unlock a schedule sheet

1 Open the schedule sheet.

2 Click the **File** menu and choose **Lock Structure** or **Unlock Structure**.

Open a schedule sheet

To open a project or shell schedule sheet

1 In User Mode, select the project or shell, and select **Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.

2 Select the sheet in the log and click **Open**, or double-click the sheet. The schedule sheet opens.

3 You can:

- Add or manage rows and columns and define activity properties. See the *Unifier Administration Guide*.
- View activities and columns in the left pane; view the Gantt chart in the right pane. You can move the split screen bar to the left or right as needed. Scroll bars are available on the bottom of the sheet.
- Define labels for the Gantt chart activity bars (Schedule Sheet Properties window, Options tab).
- Save or view snapshots.
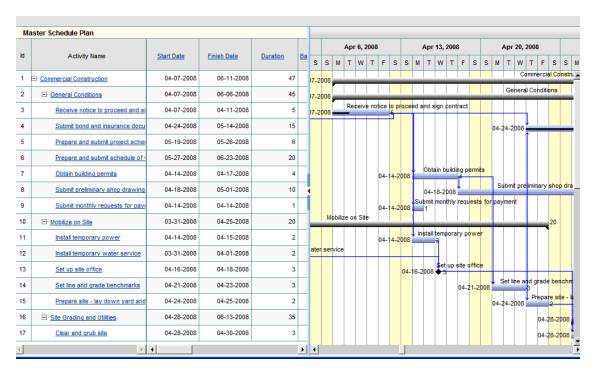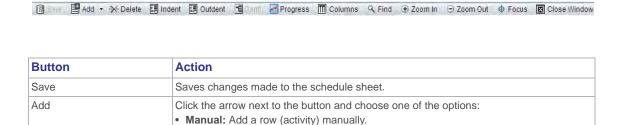
Figure 8-2 Example Schedule sheet

Schedule sheet toolbar

You can perform the following functions from the toolbar. Click the down arrow next to a button to view further options.

Button	Action
Save	Saves changes made to the schedule sheet.
Add	Click the arrow next to the button and choose one of the options: • **Manual:** Add a row (activity) manually. • **Copy Activity From:** Add a row by copying a row in a selected sheet.
Delete	Select a row and click **Delete** to delete the activity.
Indent	Select a row and click to indent the row. The row above become a summary row.

Outdent	Select an indented row and click to out-dent.
Gantt	Return to the Gantt chart view.
Progress	Access the Activity Progress view. See "Entering Progress in the Activity Progress Window" for details on activity progress.
Columns	Add and manage columns on the sheet.
Find	Click to search for an activity. You can search on any column on the sheet.
Zoom In	Click to zoom in the Gantt chart. The default view is week (by day), which is the maximum zoom-in view.
Zoom Out	Click to zoom out the Gantt chart. You can zoom out to month (by week) view and year (by month) view.
Focus	Select an activity and click to move the activity into focus. The Gantt chart view moves to the beginning date of the selected activity.
Close Window	Close the schedule sheet.

Find an activity

You can search for a specific activity by the values of any column on the schedule sheet.

To search for an activity

1 Open the schedule sheet.

2 Click the **Find** button on the toolbar. The Find window opens.

3 Complete the window:
   • **Column:** Click the drop-down list and choose a column to search on. The default is activity name.
   • **Value:** Enter all or part of a value to search for. For example, to search for the word Construction, you can enter the entire word or any part of the word.
   • **Search:** Click the drop-down list and choose to search down or up from a selected row. If you do not select a row, the search will begin at the top row.

4 Click **Find Next**. If an activity is found that matches the search criteria, the row will be highlighted. To keep searching, click **Find Next** again.

5 When you are done searching, click **Cancel** to close the window.

Restrict Access to Activity fields and columns

You can restrict user access to selected fields and columns (those based system defined data elements on the General tab, which are on the Activity Attribute form and on the Resource tab, which are on the Resource Assignment Attribute form).

Note: *These restrictions also apply to schedule sheet columns when a restricted data element is used as a column.*

After a field or column is marked with restricted access for selected users or groups, those users or group members cannot modify those data elements (fields). For Start Data, Finish Date and Duration data elements, users that are restricted cannot modify this group data elements, even if they have restriction on any one of the data elements in the group. Also, the Gantt Chart will be disabled for a user if the Start, Finish, and Duration data elements are restricted for that user.

If a data element cannot be modified by a user or group then data imported through CSV / XML for that data element is ignored. If there is any failure in validation (both user and system defined), Unifier will stop data import.

To restrict access to specified system defined data elements

1   Navigate to the schedule sheet log.

2   Open a schedule sheet.

3   Choose **File > Restrictions**. The Restrictions Setup window opens.
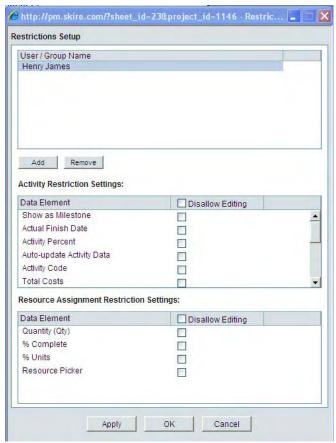
Figure 8-3 Restrictions Setup window

4   Add the user or group name whose access you want to restrict.

5   Choose the data elements to restrict. The data elements listed for the Activity Attribute form and the Resource Assignment Attribute form are those that are system defined (the data element name starts with *uuu_*) and were added to the forms. You can select all of the listed data elements, or individual data elements.

6   Click **OK**.

Copy and paste or cut and paste activity rows in a sheet

You use copy and paste or cut and paste to reorganize activities in a sheet.

To copy and paste activities in a sheet

1   Open the schedule sheet in the log.

2   Highlight the row or rows you want to copy.

3   Choose **Edit > Copy**.

4   Select the destination for the copied rows. The rows you copy will be inserted above the selected destination row.

5   Choose **Edit > Paste**. You can choose **Edit > Paste** multiple times to repeat the pasting of the copied rows.

All dependencies within the copied activities are retained; all dependencies outside of the copied activities are discarded. Copy and paste copies all data on the copied activity including Scope Management Setup, dependency relationships, Baselines, WBS, and resource assignments.

Changes that occur to copied and pasted activities:

• Status will be set to Not Started for the pasted activity

• Actual Start Date and Actual Finish Date will be cleared

• Links to BP Record, Record Status are not copied.

• Critical Path elements are recalculated.

The copied activities remain in the copy buffer until the next Copy or Save is performed. Other actions do not clear the copy buffer.

To cut and paste activities in a sheet

1   Open the schedule sheet in the log.

2   Highlight the row or rows you want to cut.

3   Choose **Edit > Cut**. The row you want to cut is highlighted, and remains in place until you paste it.

4   Select the destination for the cut rows. The rows you paste will be inserted above the selected destination row.

5   Choose **Edit > Paste**. You can choose **Edit > Paste** multiple times to repeat the pasting of the cut rows.

6   You can undo the cut action by choosing **Edit > Undo Cut**.

All dependencies within the cut activities are retained; all dependencies outside of the cut activities are also retained. Cut and paste retains retain all other setups and data on the activity including the business process link. Moving Summary Activities will automatically move all activities below the summary whether the summary is expanded or collapsed. The Gantt Chart View will reflect the new ordering of activities without impacting dependencies.

If the user performs any other actions before clicking Paste then the contents of the cut buffer are lost. A subsequent paste will not result in any action. Actions that empty the buffer are:

• All actions on the toolbar (Save, Add, Delete, Indent/Outdent, Gantt, Progress, Close Window.)

- All actions under the File menu
- All actions under the Edit menu (Except Paste)
- All actions under the View menu except Find
- Clicking into any editable cell or modifying dates via Gantt or the Activity Attribute Form.

Allowed actions that do not empty the cut buffer are:
- Find
- Zoom In or Zoom Out
- Focus
- Opening the Activity Attribute form without changing data.

Use filters in a schedule sheet

You can use filters to locate certain activities in a schedule sheet. The filter is based on criteria that you specify. When you use a filter, it applies only to the schedule sheet you are working with, but the filters you create are visible to all other users.

To add a filter for activities in a schedule sheet

1   Select the records in the schedule sheet that you want to filter.

1   Open the schedule sheet in the log and choose **View > Filters**. The Filters window opens.

2   Click **Add**.

3   In the Add Filter window, specify the filter criteria. Each filter can have multiple criteria based on the data elements in the activity attribute form. You can also use this window to edit or remove filters. The Add and Remove buttons are enabled only for users who have edit permissions on the schedule sheet.

4   Selecting the **Display Summary Activities** checkbox controls whether the filtered schedule sheet displays summary activities corresponding to any leaf activities displayed in the sheet. The filter is not applied to the summary activities.

5   Click **Apply** to save and immediately apply the filter to the schedule sheet.

6   Click **OK** to save the filter for later use.

To apply a filter to schedule sheet activities

1   Open the schedule sheet in the log and choose **View > Filters**. The Filters window opens.

2   Select the activities you want to filter.

3   Select a filter name and click **Apply Filter**. The schedule sheet refreshes with the filter applied.

To clear a filter from a schedule sheet

1   To return the schedule sheet to the original view, select the schedule sheet in the log.

2   Choose **View > Clear Filters**.

Update rates and cost data

When a resource is assigned, the average booking rate is used to calculate assignment costs.

> Average Booking Rate = Total Booking Cost / Total Hours for the entire booking row selected while assigning the resource.

> Labor Cost (for a resource assignment) = Total Assigned Hours x Average Booking Rate.

After assignment, the booking rate may change as changes occur to the booking sheet. These rate changes will not automatically affect the assignment (labor) costs stored in the schedule sheet.

You can update resource rates on the schedule sheet and also update the project or shell cost sheet with corresponding assignment costs. The current currency exchange rate at the time of assignment will be used.

The update has two options:

- **Resource Utilization:** This updates resource rates only.
- **Resource Utilization and Cost Manager:** This updates resource rates on the schedule sheet and posts costs to the cost manager. This option is only enabled on the master schedule sheet.

To update rates on the schedule sheet

1 Open the schedule sheet.

2 Choose **Edit > Update > Resource Utilization**. Labor costs on the entire schedule sheet are recalculated based on the latest average booking costs and exchange rate.

To update costs on the cost sheet

1 Open the schedule sheet.

2 Choose **Edit > Update > Resource Utilization and Cost Manager**. Labor costs are updated and posted to the cost sheet (column with labor cost data source) based on the WBS codes and split percentage specified on each activity. The existing cost in the cost sheet columns will be replaced by new values. Similarly, any values in the Fixed Cost, Non-Labor Cost, and Total Cost columns in the schedule sheet will be posted to corresponding data sources on the cost sheet.

About activity properties

The Activity Properties window has the following tabs, allowing you to configure the following:

Tab	Description	Where available
General	General identifying properties	Template, project or shell template, projects or shells
WBS Codes	Link one or more WBS codes to an activity; can define % split	Project or shell template, project or shells
Resources	Assign one or more resources to an activity	Project or shells
Dependencies	Add dependencies between activities	Template, project or shell template, project or shells

For details about defining activity properties, see the *Unifier Administration Guide*.

Add general comments (with or without file attachments)

You can add general comments to a schedule sheet, and can include file attachments with the comments. This is similar to adding general comments to a business process.

To add a general comment to a schedule sheet

1   Select the schedule sheet in the log and click the **Comments** button. The General Comments window opens.

2   Add your text comments in the **Text Comments** box in the upper portion of the window. You can view any previous comments in the Existing Comments section of the window.

3   To attach a file to the general comment, click the **Attach** button.

> **Note:** *Once you add a general comment to a schedule sheet, you cannot edit or delete it.*

4   Click **OK** to save the general comment.
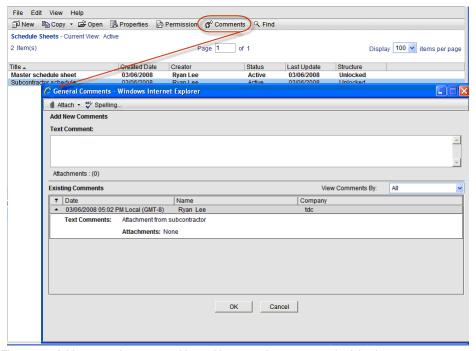
Figure 8-4 Add a general comment with or without attachments to a schedule sheet

WORKING WITH LINKED SCHEDULE SHEET TEMPLATES TO UPDATE SCHEDULE SHEETS

You can use a linked schedule sheet template to update numerous schedule sheets simultaneously. You can update linked project or shell schedule sheets from schedule sheet templates. Linked schedule sheets are project or shell schedule sheets that are dynamically linked to a schedule sheet template. See the *Unifier Administration Guide*, Schedule Manager Setup chapter, for details on working with linked schedule sheets, and work with your Administrator to enable and setup the template linking.

This functionality is useful if you have numerous project or shell schedule sheets to update simultaneously with the exact same information and structure. This functionality is optional, and does not have to be part of your typical use of the Schedule Manager if you find you do not have a business need for it.

Linked schedule sheets can be updated manually, but you can only make limited changes to dates and data. The overall structure of the sheet (adding or deleting activities, for example) is updated only through the associated linked template. The Administrator must de-link the linked schedule sheets for you to be able to modify the structure of the sheet.

Users will be restricted from performing following actions on a linked schedule sheet. The restrictions apply to all users regardless of their permission level. User cannot perform following actions on linked schedule sheets:

- Add Activities
- Delete Activities
- Indent/Outdent Activities
- Import CSV, MPP
- Import with Overwrite or Merge (XML, WS)
- Modify Activity Name, Activity Codes
- Modify Scope Management Setup
- Cannot add /modify/delete columns
- Re-arrange (cut/paste) activities

Users can be able to change start/finish dates, durations, other cell values except those listed above. Users can change all schedule sheet properties (provided permissions exist for the user).

Note: *Updating schedule sheets through linked schedule sheet templates can overlay the structure of schedule sheets and the data elements listed below. Be sure that you want the linked sheets to be updated to this extent by the template.*

These changes occur to linked schedule sheets from link-enabled templates:

- Addition of new activities or deletion of activities
- New or changed predecessor relationships
- Add, delete, or modify column definitions
- Changes to the ordering of activities in sheet
- Changes to the indentation of activities

Note: *Changes to dependent activity Start Date or Finish Date caused by changes such as modifications to predecessors or the addition or deletion of activities are handled dynamically by the schedule sheet*

- Changes to the values of these data elements:
  - Activity Name
  - Activity Codes
  - Activity Id (caused by re-ordering of activities)

  Other data element values on the schedule sheet template are not updated using the linked schedule sheet. In this case, the template might have blank values and if you update these values you will overwrite the data with a blank value.

Note: *Schedule Sheet Properties are not updated using the linked templates functionality.*

To view the linked template for a linked schedule sheet

1   Navigate to the schedule sheet log.

2   Select a schedule sheet that is linked to a schedule sheet template.

3   Choose **View > Linked Template**. The Linked Template window opens.
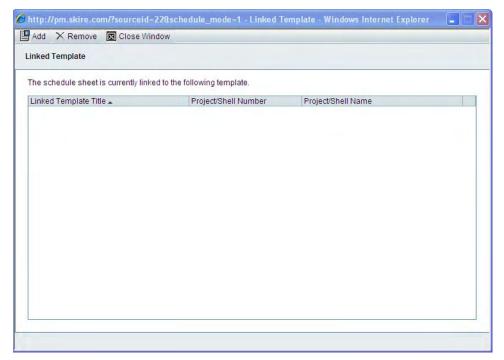
Figure 8-5 Linked Template window

4   Click **Close Window** when you are done viewing the linked templates.

To link existing schedule sheets to a link-enabled template
You can link an existing schedule sheet to a link-enabled template.

1   Navigate to the schedule sheet log.

2   Select a schedule sheet that is linked to a schedule sheet template.

3   Choose **View > Linked Template**. The Linked Template window opens.

4   Select the template.

5   Click **Add**. You will receive a confirmation message that the data in the newly-linked sheet
will be modified when the update is completed using the link between the template and the
sheet.

Linking an existing schedule sheet causes:

• Loss of existing data on the project or shell schedule sheet, including all activities,
columns and cell data

            • Retention of project or shell schedule sheet properties, including the Schedule Start Date

6   Click **OK**.

To de-link schedule sheets from a link-enabled template

De-linking removes the link between the schedule sheet and the template.

1   Navigate to the schedule sheet log.

2   Select a schedule sheet that is linked to a schedule sheet template.

3   Choose **View > Linked Template**. The Linked Template window opens.

4   Click **Remove**.

5   Select the template.

6   Click **OK**.

SETTING SCHEDULE SHEET BASELINES

A baseline is a set of original project or shell estimates. It consists of the following for a task:

• Start

• Finish

• Duration

Baselines allow you to track the progress of a project or shell and to compare its state at any given moment with the original estimates. You can save up to 11 sets of baselines in a single project or shell schedule sheet. You can use these various baselines as snapshots of your project or shell progress over time, with each baseline corresponding to key project or shell events.

The first baseline that you save is named Baseline. Subsequent baseline are named Baseline 1 through Baseline 10. The baseline sets are system-defined data elements that your administrator has included on the activity attributes form. When you set up the baselines, the values from the start, finish, and duration elements are mapped to the baseline set.

Note: *The baseline columns are not required, but you must use all three of them, if you use them at all. You must use the complete baseline set of columns (start, finish, and duration) in your sheet. You cannot use one baseline column alone.*

All baseline attributes are read only in the schedule sheet. They can be modified only via the set/clear schedule sheet baseline actions. Users with the Edit Data and Structure permission on the schedule sheet can set or clear baselines.

> **Note:** *The Edit data permission allows you to import data.*

You can also set baselines on projects or shells listed in an Activity Sheet. See "Set Up Activity Sheet Baselines" for details.

To set a baseline on a schedule sheet

1   Open the schedule sheet in the log. If you modify the schedule sheet, you must save the sheet before you can set baselines.

2   Choose **Edit > Baseline**. The Set Baseline window opens.

3   Select the baseline to set. The **Set baseline** radio button is selected by default. Only baselines that have been designed in uDesigner are available.

4   Click **OK**. The values from the start, finish, and duration elements are copied into the corresponding baseline elements. If the baseline elements contain data, you will receive a warning that the baseline will be overwritten You can choose whether to override the data.

To clear a baseline on a schedule sheet

1   Open the schedule sheet in the log.

2   Choose **Edit > Baseline**. The Set Baseline window opens.

3   Select the baseline you want to clear.

4   Select the **Clear baseline** radio button.

5   Click **OK**.

WORKING WITH GANTT CHARTS

The Gantt Chart is displayed in the right pane of the schedule sheet. The activities are shown as bars and align with activities in the left pane. The activity bar is drawn with the start date, finish date, and duration elements of the activity. The Gantt chart is shown in week/day zoom mode by default.

The Gantt chart displays:

- Activity bars, which illustrate start and finish dates and duration
- Dependency links between dependent activities
- Summary rows
- Milestones
- Critical paths

The Gantt chart is interactive. You can:

- Zoom in or out of the Gantt chart view to display detail or overview of scheduled activities.
- Configure activity bar labels. (Schedule Sheet Properties window, Options tab; for example, you can display percent complete to monitor the progress of activities, or names of resources assigned to activities, or virtually any activity property. See the *Unifier Administration Guide* for details.)
- Increase and decrease activity schedule durations by dragging on bar ends.
- Move activities from one time frame to another (modifying start and end dates).
- Create and delete predecessor relationships by linking activities. (Activity Properties window, Dependencies tab; see the *Unifier Administration Guide* for details.)
- Resize Gantt window by dragging the vertical split bar.
- Display critical paths (see).

The Gantt chart is refreshed automatically when any changes are made on the activities.
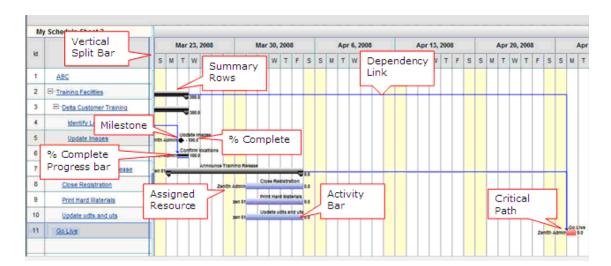
Figure 8-6 Understanding the Gantt chart view

Zoom in or out of the Gantt chart view

You can view the Gantt chart by week (per day), month (per week), or year (per month) by zooming in and out. This allows you to view the Gantt chart in detail or over an extended period of time.

To zoom in or out of the Gantt chart

1   Open the schedule sheet.

2   Do one of the following:

   • Click the **Zoom In** button on the toolbar. The default view is weekly, with each day of the week displayed. This is the maximum detail level that you can zoom in to the schedule sheet.

   • Click the **Zoom Out** button. You can zoom out to view the Gantt chart by month with each week in the month displayed, or by year with each month displayed.

View critical path

The critical path calculation can be used to flag activities on the schedule that, if delayed, can cause the schedule to go beyond the pre-planned project or shell end date. Therefore, it is important to have fixed project or shell start and end dates defined for the project or shell. Project or shell start and end dates should not automatically adjust as activities are added or rescheduled.

To view the critical path

1   Open the schedule sheet.

2   Click the **View** menu and choose **Critical Path**.

   The activities that are on the critical path will change to red on the Gantt chart. The critical path action will also update the system-defined data element uuu_float to zero if it has been included on the activity attributes form (Activity Properties window).

3   To restore the Gantt chart view, click the **View** menu and choose **Gantt Chart**.

Work with a tracking Gantt chart

A tracking Gantt chart allows you to compare two sets of dates for a specific activity. It allows you to track activity progress against the original plan. For example, the tracking Gantt chart allows the comparison between two sets of dates such as baseline and actuals. Users with view permissions can view a tracking Gantt chart. See "Setting Schedule Sheet Baselines" for details on setting baselines.

Note: *The tracking Gantt chart is view only. It is not interactive like the regular Gantt chart.*

The tracking Gantt chart displays the data elements as a set of two bars (upper and lower) that allow you to make the comparison.

To view a tracking Gantt chart

1   Select the schedule sheet in the log and choose **View > Tracking Gantt**.

2   You can switch back to the regular Gantt chart by choosing **View > Gantt**.

WORKING WITH PROGRAM SCHEDULE SHEETS

Program-level schedule sheets are created automatically when a project or shell schedule sheet (for a project or shell within the program) is created. The rows are the project or shell sheets. You can configure columns. There is one schedule sheet per program.

Open a program schedule sheet

To open a program schedule sheet
In User Mode, select **Programs > Schedule Manager > Schedule Sheets**. The Schedule Sheet log opens.

Rows correspond to project schedule sheets. You can click the row to open the project schedule sheet. Default columns are Project Name, Start Date, and Finish Date. You can create additional columns. See the *Unifier Administration Guide* for details.

CREATING ACTIVITY SHEETS

Activity sheets give you visibility into activity data, and allows you to manage it as needed. An activity sheet allows you to view, edit, and update activity dates across project and shells. The activity data is from the Master Schedule Sheets only. The activity sheet exists in the Schedule Manager at the Program level.

For example, uParks Company has 1000 projects that fall within four categories. Four programs are created to manage the Schedule Sheet activities. Each program has its own Program Manager, controlling 250 projects. uParks has a finite number of resources and needs to stagger the work so resources can be used evenly over time. The Program Managers want to adjust their project forecast dates so that 20 projects will complete each month for the next 12 months (with 30 completing in month 12, so that all 250 are completed in a year). Using activity sheets, you can manage your project and shell data in this way.

Activity sheet terminology:

- **Activity Sheets:** Used to view and update the Master Schedule Sheet data from projects and shells within Programs.
- **Activity Code:** A value in a Program activity sheet used to map to an activity in one or more projects or shells.
- **Sub-columns:**
    - Columns grouped under an Activity Code
    - Displays data from projects/shells
    - Updates data in a project/shell

The activity sheet allows you to:

- Display and edit Master Schedule Sheets activity data across projects and shells as columns and sub-columns
- Modify editable elements
- Affects down stream dates of linked activities
    - Start, Finish, Duration
    - Estimated Start, Finish, Duration
    - Critical path dates

Project or shell names form the rows of the activity sheet; the activity codes and activity data elements form the columns and sub-columns in the sheet. The activity sheet also allows you to update multiple activities after modifying and saving the activity sheet. This update automatically updates the downstream dates of linked activities, such as Start Date, Finish Date, Duration, Estimated Start Date, Estimated Finish Date, or other dates.
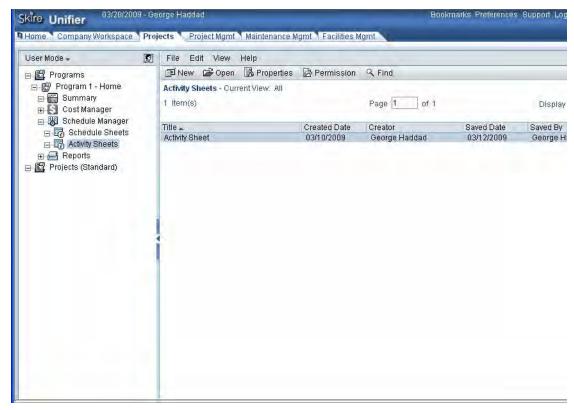
Figure 8-7 Activity Sheet navigation, example

Create an Activity Sheet

The permissions for creating an Activity Sheet are the same as those for creating a Schedule Sheet. You can create a new sheet or use a template.

To create an activity sheet

1   Navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets.** The Activity Sheets log opens.

2   Click **New**. Select an Activity Sheet template.
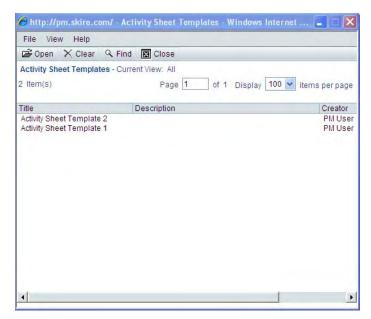
Figure 8-8 Activity Sheet templates window, example

The Activities Sheet properties window opens.

3   Complete the General tab as needed, as described in the following table.
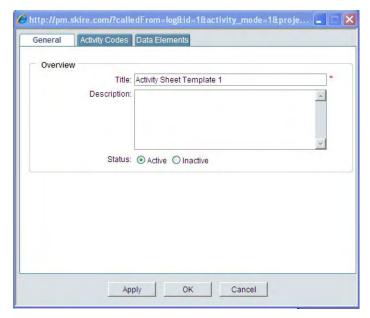
Figure 8-9 Activity Sheet properties window, General tab

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In this field	Do this
Title	Enter a title for the sheet. This is used as the sheet identifier and must be unique. (up to 120 characters)
Description	Enter an optional description. (up to 400 characters)
Status	When you are ready to make the sheet active and available for use, click Active. The default is Active.

4   Complete the Activity Codes tab (as needed, or use the codes set up in the template) by clicking **Add** to add rows and select activity codes. The Activity Codes make up the columns in the Activity Sheet.

Select the activity codes that make up the columns of the activity sheet. Confer with your uDesigner user and Company Administrator to ensure that you can create activity sheets that contain the correct activity codes to form the sheet columns. Activity names on the Master Schedule Sheet map to the Activity Codes that you add to the activity sheet. There is an one-to-one correspondence between activities and Activity Codes.

Note: Only elements that are marked as editable can be modified.

5   Click the **Move Up (Left)** or **Move Down (Right)** buttons to change the sorting order of the activity codes.
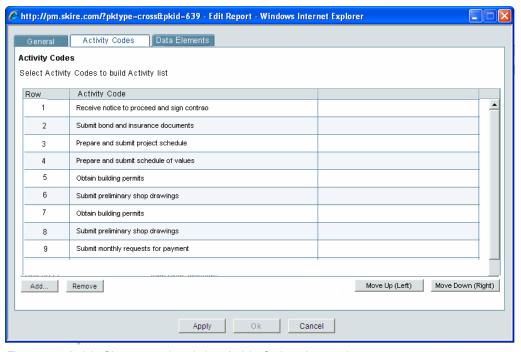
Figure 8-10 Activity Sheet properties window, Activity Codes tab example

6   Click **Add** to add click **Apply** to save your changes.

7   Complete the Data Elements tab by clicking **Add** to add rows and select activity attributes. The Data Elements make up the sub-columns in the Activity Sheet. The sub-columns are repeated under the columns. Modify these data elements as needed, or use those defined in the template.

8   Use the **Editable** checkbox to designate which data elements will be editable in the Activity Sheet. Only one of Start Date, Finish Date, or Duration elements can be made Editable (the other two elements of the group, if added, are not selectable).

These elements are always read-only, and cannot be marked as editable:
- Actual Start/Finish/Duration
- Auto-update Activity checkbox
- Milestone checkbox
- Activity Code
- Activity Status
- Baseline elements

9   Select the Allow negative lag to accommodate specified Start/Finish Dates checkbox to specify that the activity update process adjusts lag automatically to accommodate user-specified values (for Start Date, Finish Date, and Duration only). The default is unchecked.

10   Click the **Move Up (Left)** or **Move Down (Right)** buttons to change the sorting order of the data elements.
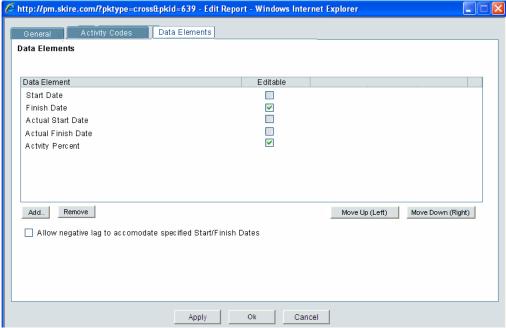
Figure 8-11 Activity Sheet properties window, Data Elements tab example

11   Click **OK**. The new Activity Sheet is available in the log.
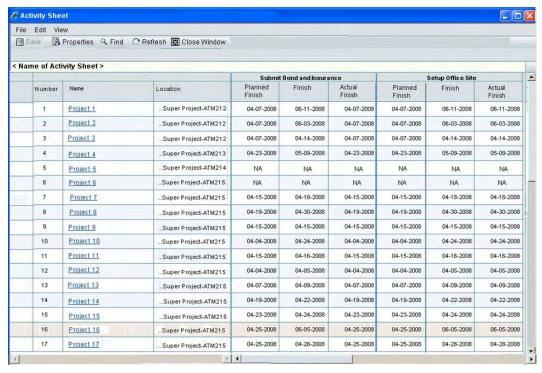
Figure 8-12 Example Activity Sheet

The rows in the sheet list the projects and shells related to the selected activity codes. The headings for the columns in the sheet are the selected activity codes; the sub-columns are the represented as the data elements for the activity codes.

The Number column lists the project or shell number; the Name column lists the project or shell name. The Location column lists the location of each shell, and is blank for projects.

Cell values are obtained from the project or shell Master Schedule Sheet from activities that the match Activity Code.

NA displays in a cell if:

• The Activity Code is not found
• You do not have permissions to view or update a Master Schedule Sheet
• A project or shell does not have a Master Schedule Sheet

Search for an Activity Sheet

To search for an activity sheet

1 In User Mode, navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheet log opens.

2 Click the **Find** button. You can search for Activity Sheets by Name and Number.

3 Click **Find Next**.

Update Multiple Activities

You can use the Activity Sheet to update multiple activities at once.

To update multiple activities

1   In User Mode, navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheet log opens.

2   Select the Activity Sheet and click **Open**.

3   Modify the data as needed. Cells that are modified are highlighted on the sheet. Only elements that were marked as editable can be modified. To undo changes in a row, select the row and click **Refresh**.

4   Click the **Save** button. The Activity Update Status window opens.
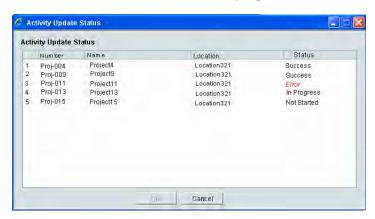
Figure 8-13 Activity Update Status window

You cannot modify the Activity Sheet while the status window is active. The status window scrolls to display In Process projects.

These are some possible activity update errors:
• Date (either manually entered or automatically calculated) conflicts with a dependency
• Date entered is before the scheduled Start Date

5   Click on the **OK** button to return to the Activity Sheet.

There are icons in the first column. The check mark icon displays for successfully processed project rows.
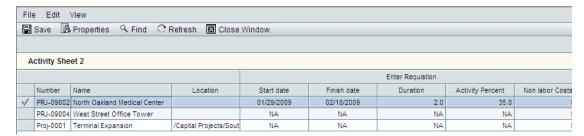
Figure 8-14 Successful update of an Activity Sheet

The X mark icon displays for rows that could not complete the processing due to errors. The X mark icons are hyperlinks. Click the icon to open a dialog box that describes the error encountered by the update process for that specific project row in the update.
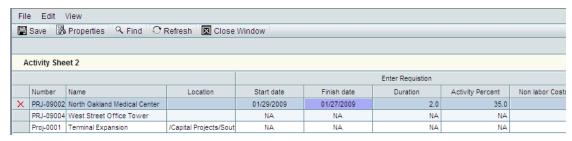
Figure 8-15 Error on update of Activity Sheet

You can modify data elements other than the system defined Start Date, Finish, Date or Duration directly to matching activities without affecting other activities.

Note: *You can edit only one of Start Date, Finish Date, and Duration can be edited in the Activity Sheet.*

If there are Finish-Start dependencies:
• If you modify the Start Date on any activity, the system will compute the Finish Date of current activity, keeping the Duration Constant
• If you modify the Start Date on any activity, the Start Date of the successor (downstream) activity is updated
• If you modify the Finish Date on any activity, the system will compute the Start Date, keeping Duration constant
• If you modify the Finish Date on any activity, the system will modify the Start Date of successor (downstream) activity
• If you modify the Duration on any activity, the system will compute a new Finish Date, keeping the Start Date constant
• If you modify the Duration on any activity, the system modifies the Start Date of successor (downstream) activities

Changes to activities that occur through Activity Sheet update are shown on the Audit Log.

Update Activity Sheet Properties

To update Activity Sheet properties

1   In User Mode, navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheet log opens.

2   Select the Activity Sheet and click **Open**.

3   Click the **Properties** button.

4   Update the properties as needed and click **OK**.

Undo Activity row changes

Refresh allows you to undo changes to cells in selected rows, so you can save the Activity Sheet without updating those cells.

To refresh Activity Sheet rows

1   In User Mode, navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheet log opens.

2   Select the Activity Sheet and click **Open**.

3   Select one or more rows in the sheet.

4   Click the **Refresh** button. Highlighting is removed from the selected rows. Those rows are not modified when you click **Save** to update the Activity Sheet.

Export Activity Sheets

You can export the entire Activity Sheet to a CSV file.

To export an Activity Sheet

1   In User Mode, navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheet log opens.

2   Select the Activity Sheet and click **Open**.

3   Choose **Edit > Export to CSV**.
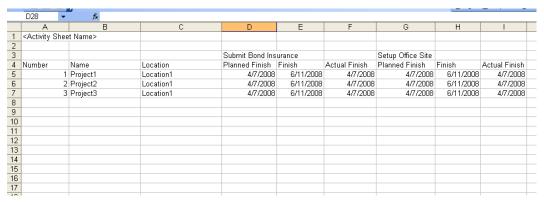
Figure 8-16 Exported Activity Sheet, example

Set Up Activity Sheet Baselines

You can set baselines on Activity Sheets at the program level. On Activity Sheets, baselines can be set for multiple projects or shells, and so affect all activities on the selected project or shell schedule sheets. The baselines you set on the Activity Sheet will affect all of the activities on the selected projects or shells, regardless of which activities are displayed on the Activity Sheet. Setting baselines at the Activity Sheet level can be useful if you are managing several projects or shells as a program. This functionality enables you to have insight into the activities for all of the selected projects or shells, and be able, for example, to discover quickly whether there has been any delay in any of the project or shell activities.

Users with the Edit Data and Structure permission on the project or shell schedule sheet can set or clear baselines for the activities from those projects or shells on the activity sheet.

See "Setting Schedule Sheet Baselines" on page 389 for further details on baselines.

To set a baseline on an Activity Sheet

1   Open the Activity Sheet in the log. If you have modified the Activity Sheet, you must save it before you can set baselines.

2   Choose **Edit > Baseline**. You can select this action only if you have saved changes to the Activity Sheet.

3   Select **Baseline > All** to apply the baseline to all of the projects and shells listing in the Activity Sheet. Select **Baseline > Selected** to select one or more project or shell rows. The Set Baseline window opens.
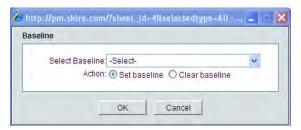
Figure 8-17 Set baseline window

4   Select the baseline to set. The **Set baseline** radio button is selected by default. Only baselines that have been designed in uDesigner are available.

5   Click **OK**. The values from the start, finish, and duration elements are copied into the corresponding baseline elements. If the baseline elements contain data, you will receive a warning that the baseline will be overwritten You can choose whether to override the data.The Confirmation window opens.

6   Click **Yes** to confirm the baseline settings. The Processing Status window opens. After the system processes the baselines, you will see a check mark next to the rows in the Activity Sheet that indicate the baseline was set successfully. If the baseline was not set, failed rows in the sheet are marked with an X.

To clear a baseline on an Activity Sheet

1   Open the schedule sheet in the log.

2   Choose **Edit > Baseline**. The Set Baseline window opens.

3   Select the baseline you want to clear.

4   Select the **Clear baseline** radio button.

5   Click **OK**. The Confirmation window opens. Click **Yes** to confirm the cleared baselines. The Processing Status window opens. After the system processes the baselines, you will see a check mark next to the rows in the Activity Sheet that indicate the baseline was cleared successfully. If the baseline was not cleared, failed rows in the sheet are marked with an X.

REFRESHING SCHEDULE SHEET DATA

The schedule sheet refresh updates cost data associated with the schedule sheet. The values that are updated are:

- Activity Cost 1 Total Per WBS and Activity Cost 2 Total Per WBS data element values are recalculated
- Values of data elements based on SYS Project Cost Data source that are used as schedule sheet columns are updated to include latest cost data

See "Entering and Viewing Cost Data" on page 419 for details on the cost data elements.

The schedule sheet refresh has three options:

- **Now:** Refresh the schedule sheet data immediately
- **Set Frequency:** Define the schedule sheet refresh frequency
- **History:** View the schedule sheet refresh history

Schedule sheet refresh can fail if:

- An activity has more than one WBS code
- A cost sheet column to which a schedule sheet column is associated is deleted from the cost sheet

To refresh schedule sheet data immediately

1   Navigate to the schedule sheet log.

2   Select one or more schedule sheets.

3   Choose **Refresh > Now**. The schedule sheet data is refreshed.

To set the frequency of schedule sheet refresh
The schedule sheet refresh frequency you set is shown in the schedule sheet log under the column heading **Scheduled**.

1   Navigate to the schedule sheet log.

2   Select one or more schedule sheets.

3   Choose **Refresh > Set Frequency**.
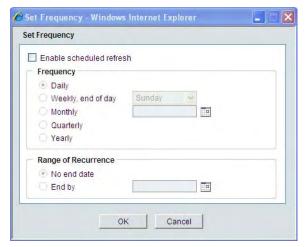
Figure 8-18 Set Frequency window

4 Select the **Enable scheduled refresh** checkbox.

5 Select the **Frequency** and the **Range of Recurrence**.

6 Click **OK**.

To view schedule sheet refresh history

1 Navigate to the schedule sheet log.

2 Choose **Refresh > History**.
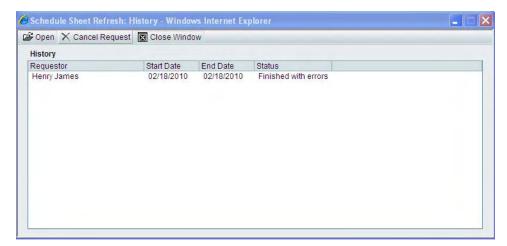
Figure 8-19 Schedule Sheet Refresh History window

3 Select a record and click **Open** to view history details.

4 Click **Cancel Request** to cancel any history query that has not started (has no Start Date).

5 Click **Close Window**.

SCOPE MANAGEMENT

The Scope Management defines deliverables, responsible roles, actual assignees and their schedules, and drives coordinated production of these deliverables. The Scope Management initiates actions for producing deliverables based on the completion of dependencies. It routes them to the responsible person or group, monitors their completion, and updates deliverable statuses automatically. It manages different activities across schedules for different team members simultaneously.

Team members work on BPs that are linked to activities in a schedule sheet. The Scope Management allows you to use existing schedule management functionality with added data elements to automate the management of a project's scope and schedule with all associated activities, tasks, and deliverables. This feature provides project managers with the ability to manage each scope item's task assignments, ownerships, and durations.

Project managers can use scope management to manage high-volume, quick turnaround projects that have standardized scope and scheduled activities. Examples of projects that would benefit from the use of scope management functionality are retail construction projects such as bank branches or chain fast food restaurants. Unifier's scope management capabilities are also useful for large capital projects with complex scope and schedules, and that have numerous dependent activities and milestones with associated tasks and deadlines.

Scope management:

- Coordinates the creation of the defined deliverables using the schedules of the various assignees
- Automatically moves tasks to the next assignee.
- Routes tasks related to the deliverables to the next responsible assignee (person or group), monitors the state of the tasks, and updates deliverable status automatically. Actions for the creation of deliverables are based on fixed-time durations and the completion of dependencies.
- Launches business processes that are linked to activities

This functionality can be enabled on any schedule sheet, including a master schedule sheet. Scope management enables you to link BPs with schedule sheet task activities and route those BPs with an automatic update of status as they are routed and worked on. The BPs represent the work that needs to be done to complete the task. You can override automatic routing at any time and launch the BPs manually. The BP-related task is completed when specified conditions are met.

WORKING WITH SCHEDULE SHEETS WITH SCOPE MANAGEMENT

Access project or shell schedule sheets

You can have any number of schedule sheets. There is one master sheet, which appears in bold in the log. The master schedule sheet drives the activity start and finish dates. You can use it to track progress and resource assignment information to other modules in Unifier. You can use scope management on any schedule sheet. You must have the correct permissions to be able to view and modify scope management data. If you find that you cannot access the functionality that you need, see your company administrator.

To access project schedule sheets

1   In User Mode, select **Project Standard tab > project > Schedule Manager > Schedule Sheets** or **Shells tab > shell type> shell instance > Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.

2   By default, the log lists all active schedule sheets. To view all active and inactive sheets, click the **View** menu and choose **All**.

Manage scope management properties

Scope Management functionality can be enabled on any schedule sheet (including master schedule sheets). You can modify the properties associated with scope management. These include:

• Auto-control
• Schedule start date
• Error notification to users and groups

To manage scope management properties

1   In User Mode, navigate to the project or shell Schedule Manager and select Schedule Log. The Schedule Sheets log opens.

2   Select a schedule sheet and click **Properties**.

3   On the General tab, complete or modify the fields described in the following table and then click **OK**.

In this field:	Do this:
Auto-control	Controls the automatic update of tasks. The default is Off. Setting auto-control to On enables the automatic launch of BP records. Setting auto-control to Off means that BPs will not be launched automatically on activities and completion conditions will not be checked on activities. Users can still launch BPs manually.
Schedule Start Date	Drives the dates of floating activities on the schedule sheet. Activities cannot begin before this date, unless their preceding activities complete previous to this date.
Notify users and/or groups on errors	Select users and groups to be notified if there are errors during the scope management task routing.

About scope management data elements

There are data elements that are specific to scope management, which were added to the schedule attribute form in uDesigner. These data elements can be added to the scope management schedule sheet as columns as you work with the sheet. If data elements are on both the schedule attribute form and on the BP that you will be using to execute the activity task for scope management, the values are copied from the form to the BP and vice versa.

When you are planning to use scope management, consult with the uDesigner user and your company administrator to achieve the setup of data elements and BPs that will meet your business needs for managing scope.

The scope management-specific data elements that are added to the schedule attribute form are:

Data Element Name	Description
Actual Start Date	Actual start date of the activity.
Actual Finish Date	Actual finish date of the activity.
Actual Duration	Actual duration of the activity. This is calculated from the Actual Start Date and Actual Finish Date.
Status	Activity status. The default is Not Started.
Predecessors	A list of the predecessor activities. **Note:** Activities that have no predecessors are known as floating activities. See "Impact of Schedule Start Date" on page 417 for details on start dates and floating activities.
Record Number	Hyperlink to the linked BP record.
Record Status	Hyperlink to the linked BP record.
Estimated Start Date	Calculated date.
Estimated Finish Date	Calculated date.
Estimated Duration	Calculated duration.
Auto-update Activity Data	Enables the automatic update of activity data. The default is unchecked. If this checkbox is not selected, the activity must be completed manually, and automatic completion will be turned off. This means you must change the activity status to compete and enter an actual finish date.
Linked BP Name	Name of the linked BP.

Set up scope management for activities

You can set up the schedule sheet activities to link to BPs, specify responsible users or groups, enter a due date, and create completion conditions.

You can change all setup options for activities that have the status of not started or not applicable. For activities that have an in-progress status and have a linked BP record, you can change only the completion conditions. You cannot change setup options for activities with the status complete.

To set up scope management for an activity

1   In User Mode, navigate to the Schedule Manager and select Schedule Log. The Schedule Sheets log opens.

2   Select a schedule sheet click the **Open** button.

3   Select an activity in the sheet.

4   Choose **File > Setup Scope Management**. The Activity Task Setup window displays on the right side of the pane, replacing the view of the Gantt portion of the window.

> **Note:** *You can return to the Gantt chart view by clicking the **Gantt** button.*
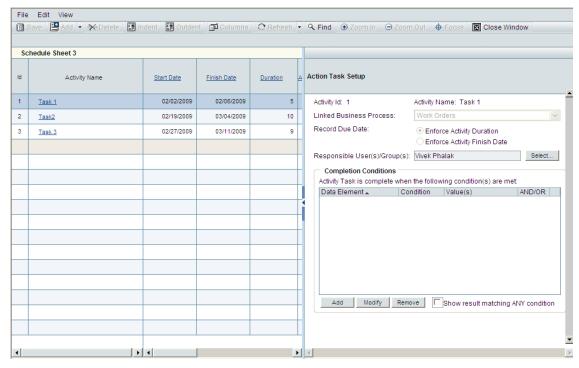
Figure 8-20 Activity Task Setup example window

5   Complete the Activity Task Setup portion of the window as described in the following table.

In this field:	Do this:
Linked Business Process	Select a project or shell level workflow BP that will launch from the activity.
Record Due Date	Select **Enforce Activity Duration** (default) or **Enforce Activity Finish Date**. When a BP is launched automatically or manually from an activity, you can specify whether the record due date on the newly launched BP record is set to use the activity duration or the activity finish date. **Enforce Activity Duration:** The finish date of the activity is not considered. If the Record Due Date option is set to enforce the activity duration, the value is calculated as: *Record Due Date = Current Date (date/time) + Activity Duration (days)* **Enforce Activity Finish Date:** If the Record Due Date option is set to enforce the activity finish date, it is calculated as: *Record Due Date = Activity Finish Date* **Note:** This functionality applies to workflow BPs launched from Scope Management only. Non-workflow BPs cannot be launched using Scope Management. **Note:** If you select Enforce Activity Finish Date, the workflow due date for the business process might be affected. Be sure to select Yes for Override Workflow Due Date in the workflow setup for the affected business process.
Responsible User(s) /Group(s)	Select one or more users or groups to which to route the business process. Be sure to add users and groups to this field so the business process associated with the activity will launch properly.

In this field:	Do this:
Completion Conditions	Add one or more conditions to indicate the completion condition on the activity. Click **Add** and select from the data elements for the selected BP, enter a label for the condition data element, select a condition, and select a value. Click **OK**. Conditions can be a BP status, a monetary value, or the completion of certain predecessor activities. You set up several completion conditions for each activity. See "Completion Conditions" on page 409 for details.
Show results matching ANY condition	Select to complete the activity if any of the completion conditions are met for the activity.

6   Repeat these steps for each activity.

7   Click the **Save** button when your changes are complete.

Completion Conditions

You can set up completion conditions for a string or a date. For example, for the string *Amount*:
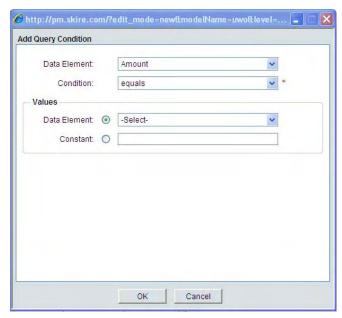
Figure 8-21 String condition example

For example, for a date:
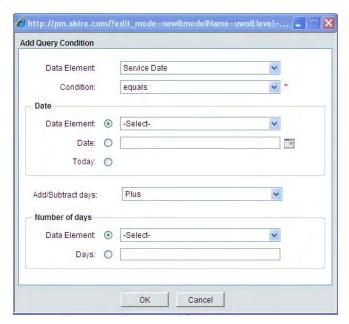
Figure 8-22 Data condition example

LAUNCHING BUSINESS PROCESSES FROM ACTIVITIES

While the scope management functionality is automatic after it is set up, you can also manually launch or remove BPs from activities and manage the activity properties.

Note: *If a project or shell changes status from Active to View-Only or Inactive, business processes associated with activities are not launched while the project or shell has the View-Only or Inactive status. When the project or shell reverts to Active status, you must adjust the dates on these business processes and launch them manually.*

Manually launch a business process

When you manually launch a BP associated with an activity, you override the Auto-control property setting. See "Manage scope management properties" on page 406 for details on properties.

To manually launch a BP associated with an activity
See "About Launching or Removing Business Processes from Activities" on page 413 for details on the conditions under which you can manually launch BPs.

1   In User Mode, navigate to the Schedule Manager and select Schedule Log. The Schedule Sheets log opens.

2   Select a schedule sheet and click the **Open** button.

3   Select an activity.

4   Choose **Edit > Linked Business Process > Start**. You can select one or more BPs and launch them. They will be routed to the assignees that have been specified.

Remove the link between a business process and an activity

You can remove (de-link) a BP from an activity. See "About Launching or Removing Business Processes from Activities" on page 413 for details on the conditions under which you can remove BPs from activities.

To remove the link between an activity and a BP

1 In User Mode, navigate to the Schedule Manager and select Schedule Log. The Schedule Sheets log opens.

2 Select a schedule sheet and click the **Open** button.

3 Select an activity.

4 Choose **Edit > Linked Business Process > Remove Record**. You can select one or more BPs. The BP itself is not deleted.

> **Note:** *The link between a BP and an activity is automatically removed if the BP is terminated. When a linked BP is terminated, the BP hyperlink is removed from the associated activity, and the activity is set to not started.*

Update activity properties

To update activity properties for scope management

1 In User Mode, navigate to the Schedule Manager and select Schedule Log. The Schedule Sheets log opens.

2 Select a schedule sheet and click the **Open** button.

3 Click the link for an activity. The Activity Properties window displays.

4 Modify the activity properties as needed. The properties shown in the Activity Properties window depend on the design configured in uDesigner. Activity properties associated with scope management can include:

Property Name	Definition
Activity Statuses	Read-only for automatically controlled activities. Editable for manually controlled activities. The statuses are: • **Not Started:** All activities have this as the initial status by default. Indicates that the BP linked to the activity has not yet been launched. • **In Progress:** Indicates that predecessor activities are complete and that the current activity is not started. A new BP record is created and linked to the activity. **Note:** You cannot modify certain activity attributes while an activity is In progress. • **Complete:** Indicates that an activity is complete based on the completion conditions set up for the activity.
Linked BP Name	Read-only; displays the BP linked to the activity.
Record Number	Read-only; displays the current record number that is linked with the activity.
Record Status	Read-only; displays the current status of the BP record linked to the activity.
Actual Start Date	Read-only or editable, depending on the setting for the Auto-update activity data box. This value is set when the linked BP is launched for the activity.

Property Name	Definition
Actual Finish Date	Read-only or editable, depending on the setting for the Auto-update activity data box. This value is set when the linked BP is completed based on the completion conditions.
Estimated Start Date	Read-only; indicates the estimated start date for the activity.
Estimated Finish Date	Read-only, indicates the estimated finish date for the activity.
Auto-update activity status	The default is not selected. Indicates if the current activity is automatically controlled or manually controlled.
Dependencies	Read-only; lists the predecessor activities for the current activity using a coding format indicating lag and lead time: Finish to Start (FS), Start to Start (SS), Finish to Finish (FF), and Start to Finish (SF). For example: • 3FS + 3d (Activity 3 is a predecessor with FS relationship with 3 days lag) • 2SS - 1d (Activity 2 is a predecessor with SS relationship with a 1 day lead) An activity can have multiple dependencies separated by a comma. The value is updated every time there is an addition or change to the predecessors.

5   Click **OK**.

STATUS TRANSITIONS AND ACTIVITIES

Scope management activities have statuses that control the transition of the activity from one state to another as it progresses toward completion. You can perform certain changes to the activity during its progress, but it can be limited as to what you can change while an activity has the status In Progress. The activity status transitions vary depending on whether an activity is automatically or manually launched.

Automatic activity status transitions

When activities are auto-controlled (the Auto-update Activity Status box is checked), activity status is read only. The statuses automatically transition as follows:

1   Not started (default)

2   In progress (this is when the linked BP is launched)

3   Complete (when the BP completion conditions are met)

Manual activity status transitions

You can change the activity status manually when the Auto-update Activity Status box is not checked. You can change the status during any of the states (not started, in progress, or complete).

If you change the status of an activity to In Progress, you can enter the actual start date. This clears the existing actual finish date.

If you change the status of an activity to Not Started, both the actual start date and the actual finish date are read only.

If you change the status of an activity to Complete, you can enter an actual finish date. In this case, the actual start date, if it is not populated, is set to the actual finish date at activity completion.

ABOUT LAUNCHING OR REMOVING BUSINESS PROCESSES FROM ACTIVITIES

Scope management functionality enables automatic or manual creation of BPs from activities on a schedule sheet. A new BP record can be created for every eligible activity. The BP record will be permanently linked to the activity, unless you terminate or remove the BP. An activity can be linked to only one BP record at a time. Any two activities cannot link to the same BP record.

Automatic launching of business processes

For BPs to launch automatically from activities, these conditions must be met:

• Auto-control must be set to On on the Schedule Sheet properties
• Activity is not manually controlled, which means that Auto-update Activity is selected
• Activity has a BP setup
• Activity has the status Not Started
• Activity is floating (no predecessors) or the predecessors are all in Complete status
• The start date for the activity is not in the future

Manually launching business processes

You can launch BPs manually by selecting an activity and choosing **Edit > Linked Business Process > Start**. To manually launch BPs, these conditions must be met:

• Activity has the status Not Started
• BP setup is present on the activity

Note: A BP can be launched manually to override the setting of the Auto-control flag on the Schedule Sheet Properties and Auto-update Activity Data on the Activity Properties.

Manual launch under various conditions:

Auto-control on Schedule Sheet Properties	Auto-update Activity Status on Activity	System Behavior
On/Off	Checked	Manually launched BP is tracked by the system, and actuals will be auto-populated on launch and completion.
On/Off	Unchecked	Scope Management will not keep track of BP completion and auto-population of actual start and finish dates of manually launched BP.

Manually remove business process link

You can remove a linked BP record manually if these conditions are met:

• Activity is in manual mode; that is, Auto-update Activity Status on Activity is unchecked
• Activity is in any status.

Automatic removal of business process link

If a BP is terminated by the user, the termination removes the BP link from the activity and sets the activity back to Not Started.

ABOUT ACTIVITY COMPLETION

This section covers the criteria for automatic and manual completion of scope management activities.

Conditions for the automatic completion of activities

Unifier checks the linked BP record workflow for in-progress status activities that are not manually controlled (Auto-update Activity Data box is checked for the activity).

When the system detects BP completion based on the conditions, it performs the following actions:

1   Actual finish is updated with current date

2   Activity status is updated to complete

3   Success of activities is evaluated for the automatic launching of further BPs

If there is no BP setup or if the activity is manually controlled, the system does not evaluate the BP completion conditions but waits for you to manually complete the activity.

Conditions for the manual completion of activities

Activities that are manually controlled (Auto-update Activity Data box is unchecked) can only be completed manually. In this case, you must change the activity status to Complete and enter the actual finish date, which is required for the activity to complete successfully.

IMPACT OF SUCCESSOR AND PREDECESSOR ACTIVITIES ON LAUNCHING AND COMPLETION OF BPS

This section discusses the interaction of activities and the launching of BPs. The start of an activity is affected by whether there is a lag or a lead, as shown in the examples below.

Finish-to-start (FS)

The successor activity is launched when the activity completes or the Calculated Date = Predecessor Actual Finish + Lag (if not already past).

In case of a lead, the successor activity is launched on the forecast start date (similar to a floating activity.

Figure 8-23 Finish-to-start

Start-to-start (SS)

When an activity's predecessor is started (for example, status = in-progress), it is also placed into an in-progress status (assuming zero lag).

- **Lag:** Success, or activity will be started on forecast date
- **Lead:** Success, or activity will be started on forecast date
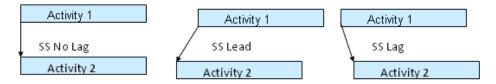
Figure 8-24 Start-to-start

Finish-to-finish (FF) and start-to-finish (SF)

The activities will be treated as floating activities. They are launched on their forecast date.

- **Lag:** Success, or activity will be started on forecast date
- **Lead:** Success, or activity will be started on forecast date

Figure 8-25 Finish-to-finish, start-to-finish

ABOUT MANUAL OR AUTOMATIC CONTROL OF INDIVIDUAL ACTIVITIES

This section describes the behavior of manual and automatic control of scope management activities.

Auto-update activity data on activity attributes

Activities can be controlled in two modes: automatic or manual. This choice depends on the value of the Auto-update Activity Data checkbox.

If **Auto-update Activity Data** is checked, automatic launching of BPs and completion checks with the possibility of launching the BP sooner.

If Auto-update Activity Data is unchecked (default value), the user has manual control, but basic scope completion rules are enforced. BP link is maintained. New BPs can be launched manually. The BP is not checked for completion.

The following table summarizes the behavior in each mode:

Behavior	Automatic	Manual
Auto-update Activity Data checkbox	Checked	Unchecked (default)
BP setup allowed	Yes	Yes
Create BP record link	Yes	Retain existing link if any exists

Behavior	Automatic	Manual
BPs launched by scheduler	Yes	No
Manual BP launch	Yes	Yes, but completion and actuals are not tracked
BP condition check	Yes	No
Scope status updated	Updated by system	Manual update via drop-down menu choice
Scope status update rules enforced	Yes	Yes
Actual dates	Automatic	Manual

Rules for modifying the Auto-update Activity Data checkbox

These are the rules for using the Auto-update Activity Data checkbox.

- The Auto-Update Activity Data checkbox is unchecked by default for all schedule sheets.
- As soon as a new BP is set up for the activity (by choosing **File > Setup Scope Management**), the Auto-update Activity Data checkbox will be checked only for activities in the Not Started status.
- Updating the BP setup on an activity later will only check the Auto-update Activity Data checkbox automatically if the activity is in the Not Started status. If you have not set up any BP linking, by default, the box is unchecked. In that case, you can update the Actual Start, Actual Finish, and Status fields.
- You can manually modify the Auto-update Activity Data checkbox for any activity status, including complete.

System behavior when the Auto-update Activity Data checkbox is modified

The following is the sequence of the system behavior when the Auto-update Activity Data checkbox is modified:

1   The Auto-update Activity Data checkbox is unchecked by default, assuming that no BP setup exists for the activity. As soon as a new BP is set up or modified for the activity, the Auto-update Activity Data checkbox is checked.

2   Unchecking the Auto-update Activity Data checkbox will:

   a   Retain the BP record link (if any).

   b   Retain the original status of the activity.

   c   Change the activity status of an editable field.

   d   Retain existing actuals but allow them to be modified.

3   Subsequent checking of the Auto-update Activity Data checkbox will:

   a   Retain the BP record link if it exists.

   b   If a BP record link exists, update BP record status on the activity, and check the BP record for complete condition and set the appropriate status of the activity (either Complete or In Progress).

   c   If a link does not exist and conditions allow the start of the BP, the system launches the

BP and sets the activity status to In Progress.

d   If a link does not exist and conditions do not allow the start of the BP, the system sets the activity status to Not Started.

Note: *Setting the status to Not Started or Not Applicable in manual control mode does not clear the BP record link. The actual start cannot be a future date when entered manually, and the actual finish cannot be a future date when entered manually.*

IMPACT OF SCHEDULE START DATE

The schedule start date on schedule sheet properties defines the earliest possible date on the schedule sheet. The start dates of all activities on the schedule sheet must be greater than or equal to the schedule start date.

The schedule start date affects the first activity in a group of linked activities and controls the start of any floating activities. Floating activities are activities that have no predecessor activities.

When you change the schedule start date, the entire schedule moves, and all the dates adjust in relation to the new schedule start date.

The schedule start date is a required field on schedule sheet properties. Updates to the schedule start date start activities are based on following rules:

• Floating activities start and retain the offset from the schedule start date specified on the sheet properties.

• The start date on floating activities can be updated; however, the activities start date cannot be earlier than the schedule start date.

• The start date of any floating activity will drive the start of the system update process. Each floating item may be the root of a tree and hence will have its own system update process that drives launching and completion of BPs for the current activity and successor activities.

• Forecast dates (start date, finish date) can only be changed for not started or in-progress activities.

• The schedule start date cannot be changed when at least one activity is in progress or complete.

• Manual launch cannot be done on any activity before the schedule start date on the sheet properties.

CALCULATION OF ESTIMATED START AND FINISH DATES

Estimated dates are used to predict the effect of delayed or early completion of predecessor activities on successor activities. They are useful to identify potential problems or the potential for schedule compression.

The estimated start, finish, and duration are read-only elements calculated by the system. They are updated by the system each time activities complete. Succeeding estimated dates are adjusted based on the logic below.

Calculation of estimated dates

For completed or predecessor complete activities:

Estimated Start Date = Actual Start Date

Estimated Finish Date = Actual Finish Date

For in-progress or not started activities:

Estimated Start Date = Predecessor (latest) Estimated Finish Date

Estimated Finish Date = Estimated Start Date + Forecast Duration

ENTERING AND VIEWING COST DATA

In uDesigner, data elements can be added that allow you to enter and view cost data on schedule sheets. These data elements are Activity Cost 1 (and Activity Total Cost 1 Per WBS) and Activity Cost 2 (and Activity Total Cost 2 Per WBS). The Cost and Per WBS data elements have a predefined association between them. Also, the Activity Latest Progress As Of data element can be added to allow you to track the date of the last change to an activity.

Note: *The cost data is refreshed when you choose File > Refresh in a Schedule Sheet and refresh immediately or set up a refresh frequency. See "Refreshing Schedule Sheet data" on page 403 for details.*

In the activity setup performed by the Administrator, one of more WBS Codes can be associated with an activity. The value carried by the Total Cost data element on add to a Schedule Activity Attribute form gets passed onto these WBS codes as the result of calculations such as data rollup to a Cost Sheet, or earned value calculations. The logic used by the Activity Cost 1 and Activity Cost 2 and the associated Activity Total Cost 1 Per WBS and Activity Total Cost 2 Per WBS data elements is based on the association of an activity to a WBS code.

The values for Activity Total Cost 1 Per WBS and Activity Total Cost 2 Per WBS data elements are calculated by the system based on the corresponding Activity Cost 1 or Activity Cost 2 data element values.

These are the steps the system follows to calculate values for Activity Total Cost 1 Per WBS and Activity Total Cost 2 Per WBS data elements:

1   If the combination of Cost and Per WBS data elements are used on an Schedule Activity Attribute form, the system will scan through all of the activities and associated WBS codes.

2   The system will accumulate all of the values in the Activity Cost 1 or Activity Cost 2 data elements for all activities per WBS code associated with each activity.

3   Use the total value calculated in step 2 per WBS code as the value for each Activity Total Cost 1 Per WBS and Activity Total Cost 2 Per WBS data element specified for each activity.

4   Each activity gets a total value calculated in step 2 based on the WBS code associated with it.

The following example explains these calculations. For this example, the data elements Activity Cost 1 and Activity Total Cost 1 Per WBS have been added to the attribute form:

Activity Name	Activity Cost 1	Activity Total Cost 1 Per WBS
Control Account 1	$28,000.00	
Control Activity 1.1	$19,000.00	
Control Point 1.1.1	$10,000.00	$28,000.00
WBS - 1	$10,000.00	
Control Point 1.1.2	$9,000.00	$28,000.00
WBS - 1	$9,000.00	
Control Activity 1.2	$9,000.00	
Control Point 1.2.1	$5,000.00	$28,000.00
WBS - 1	$5,000.00	
Control Point 1.2.2	$4,000.00	$28,000.00

Activity Name	Activity Cost 1	Activity Total Cost 1 Per WBS
WBS - 1	$4,000.00	
Control Account 2	$20,000.00	
Control Activity 2.1	$20,000.00	
Control Point 2.1.1	$8,000.00	$20,000.00
WBS - 2	$8,000.00	
Control Point 2.1.2	$12,000.00	$20,000.00
WBS - 2	$12,000.00	

In the above example, Control Point 1.1.1 has a value $28000.00, which was arrived at by adding the value of WBS - 1 across all activities.

PROJECT PROGRESS DATA ACCUMULATION AND CALCULATION

The Schedule Manager allows you to enter activity progress, which is accumulated and used to calculate the earned progress for each activity. Earned progress represents how much has been earned on an activity. Depending on type of activity, earned progress can be tied to activity progress directly. However, it is also possible nothing is earned even if the progress is 99%, if the activity has been defined to have earned progress counted upon 100% of activity completion.

Earned progress is quantitative measurement to indicate how much has been earned on an activity over the duration of the activity. Earned Progress can be represented by amount, quantity and a percentage value. Earned Progress is based on the progress entered by user on an activity.

Each activity can earn progress in different ways. One way to earn is when progress is entered. Another way to earn is by % of activity when the activity is started and earn remaining % when that activity is finished. Unifier captures earned progress for an activity as well as resources that assigned to an activity. Earned progress data from the Schedule Manager is related to WBS codes and is used by the Earned Value module (in the Cost Manager) to calculate different key components that are required to perform Earned Value analysis.

The Schedule Manager also allows you to enter activity progress in the activity properties.

The calculations described in this section pertain to the progress and earned progress data accumulation and calculation discussed in "Progress and Earned Progress Calculations" on page 440. If you do not need to work with progress or earned progress data to ultimately calculate Earned Value, you do not need to read this section.

Note: *The calculations described in this section pertain to the progress and earned progress data accumulation and calculation. If you do not need to work with progress or earned progress data to ultimately calculate Earned Value, you do not need to read this section.*

Terminology:

Progress: A percentage that indicates how much of an activity has been accomplished.

Earned Progress: This quantity represents the progress earned for a given activity over a time period. Depending on type of activity, earned progress can be tied directly to activity progress. Also, earned progress can be set up to be given at activity finish. For example, earned progress might not be awarded for incremental percentages of progress, and not be counted until 100% of an activity is complete.

Earned Progress and Earned Value

The Earned Value module uses the concept of Earned Value Management (EVM), which is an analytical tool that allows Project Managers and stake holders of a project to determine whether a project is on schedule and on budget. Based on the outcome of the earned value analysis, the project manager can determine if corrective action is needed to ensure that the project can be completed with in its constraints. Examples of corrective action can be the change of project scope, extension of the schedule, or the addition of resources.

There are a number of parameters that are used to calculate Earned Value to determine if a project is on schedule and on budget. Some of these parameters are Budget, Progress, or Actual Cost. All of these parameters must be considered together to determine the current state of a project. One of the key components of this technique is to capture the progress of a project. This

progress is usually provided by a General Contractor or the person who is in charge of the project. These progress entries are analyzed to determine the state of the project. Progress information entered by user can be analyzed to determine the progress of the project with respect to budget and schedule.

Enter progress and earned progress information

In Unifier, there are several areas that enable you to enter (based on settings), view progress and earned progress information, or control the accumulation of progress information:

1 **Budget and Progress Setup window:** first, setup how you want your progress data calculated. See "Setting Up the Budget and Progress Method" on page 422 for details.

2 **Enter data on the attribute forms.** The fields that allow you to enter data are determined by the settings on the Budget and Progress Setup window:

• Resource Assignment Attribute form (Resource tab of Activity Properties)

• Schedule Attribute form (General tab of Activity Properties)

See "Entering Progress Data on the General and Resource Tabs of Activity Properties" on page 433 for details.

3 **Activity Progress window:** View activity and resource progress; depending on settings on the Budget and Progress Setup window, you can enter progress data in this window. This window is available only if you have imported the Resource Assignment Attribute form. See "Entering Progress in the Activity Progress Window" on page 434 for details.

4 **Check activity and resource progress in the logs:** View and enter progress data as needed:

• Activity Progress log

• Resource Progress log

See "Using the Activity Progress and Resource Progress Logs" on page 438 for details.

5 **Options tab of the Schedule Sheet Properties:** The options on this tab allow you to control the automatic update of activity status based on Actual Start and Actual Finish dates, and to specify that activity progress requires an Actual Start Date. See the *Unifier Administration Guide* for details.

SETTING UP THE BUDGET AND PROGRESS METHOD

The Schedule Manager allows you to set up a budgeted cost of work schedule profile for each activity on a schedule sheet to distribute budget associated with the activity.You can enter this profile information in the Budget and Progress setup window, either at the schedule sheet level (for all of the activities on the sheet) or at the individual activity level.

These settings include selecting a profile, an entry method, and calculation methods for % Complete and % Earned. The settings you select in this window control how the progress and earned progress data that is entered on the Resource Assignment Attribute form (Resource tab for Activity Properties) and the Activity form (General tab for Activity Properties) is calculated. Also, you can choose the workpackage-related WBS codes to link to, and lock the progress so it cannot be updated outside of a defined period.

You can configure the setup for progress (both resource and activity) and earned progress settings independently. At the same time, you can also have activity or resource progress calculate earned progress automatically or the earned progress calculate the progress.

Most of the Budget and Progress settings that you can use at the schedule sheet level are also available at the activity level, however there are some differences. This section will first document the settings for the schedule sheet level, and mention when there are variations at the activity level and refer to the appropriate section.

Note: The Budget and Progress Method setup options for an activity cannot be modified after a user begins to enter progress for that activity. This includes activity progress or progress of the resource assigned to that activity.

The calculations used to derive progress and earned progress are explained in "Progress and Earned Progress Calculations" on page 440.

To setup the budget and progress method

1   Navigate to a schedule sheet log.

2   Open a schedule sheet.

3   Choose **File > Budget and Progress Setup > Schedule Sheet** or **File > Budget and Progress Setup > Activity**. A the activity level, the Budget and Progress Method Setup window opens in the right side of the schedule sheet window, and replaces the Gantt chart. When you are done working with the activity-level Budget and Progress Method Setup window, you can choose **View > Gantt Chart**.

4   Select the Budget and Progress settings. The Budget and Progress Method Setup window has several sections where you can choose settings:

* **Activity Budget Distribution Profile:** See "Select the activity budget distribution profile" on page 425 for details on the profile setting choices.

* **% Complete and Earned Progress:** See "Select the entry method for the % complete and earned progress" on page 426 for details on the entry methods.

* **% Complete Calculation Method:** See "Select the calculation method for % complete" on page 427 for details on these calculation methods.

* **% Earned Calculation Method:** See "Select the calculation method for % earned" on page 429 for details on these calculation methods.

* **Additional Options (schedule sheet level only):** See "Select WBS codes filtered by workpackage (schedule sheet level only)" on page 431 and "Lock the reporting and progress entry period (schedule sheet level only)" on page 432 for details.

5   Click **OK**.

At the schedule sheet level, the Default Budget and Progress Method Setup window looks like this:
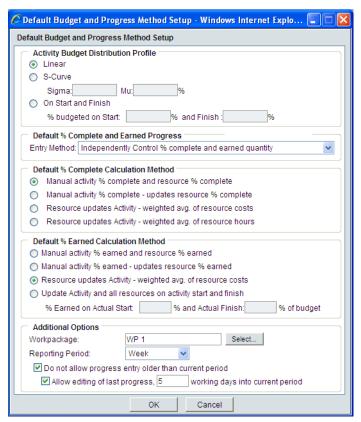
Figure 8-26 Schedule -level Default Budget and Progress Method Setup window

At the activity level, the Budget and Progress Method Setup window looks like this:
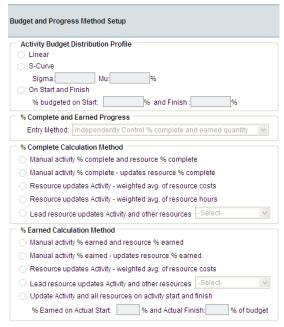
Figure 8-27 Activity-level Budget and Progress Method Setup window

Select the activity budget distribution profile

You can choose the option that determine how the budget of an activity is distributed.

To set up budget distribution for activities at the schedule sheet level

1   Open a schedule sheet.

2   Choose **File > Budget and Progress Setup > Schedule Sheet**.

3   Under the **Default Activity Budget Distribution Profile** section, choose an option. This option will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different option for an individual activity.

Data Element Name	Description
Linear	This option distributes the activity budget linearly.
S-curve • Sigma • Mu %	This option distributes the activity budget based on Sigma and Mu values. S-curve calculations are based on Sigma and Mu values that user provides as setup parameters. The system will generate data using following probability density function: $$f(x) = \frac{1}{\sqrt{2\pi\sigma^2}}\, e^{-(x-\mu)^2/(2\sigma^2)}$$ Parameters in this equations are: • *X* is determined based on the number of periods. • *Mu* is the mean that is calculated based on user input. • *Sigma* is the standard deviation that is used based on user input.
On Start and Finish • % budgeted on Start • and Finish	This option distributes the activity budget based on the Start and Finish Dates of the activity. • **% budgeted on Start:** This option allows you to enter the percentage that should be budgeted on start of the activity. • **% budgeted on Finish:** This is a read-only field, and is calculated based on the % budgeted on Start value. The value for this filed is (100 - % budgeted on Start).

The tables below show incremental and cumulative examples of how these three options work, and the differences between them. This data is assumed for these examples:

• **Start Date:** 01/1/2009

• **Finish Date:** 12/1/2009

• **Total Cost:** $12000.00

• **For S-Curve:** Sigma = 2 and Mu = 50%

• **For Start and Finish:** % budget distribution on start = 5%, % budget distribution on finish = 95%

Incremental

Option	01-09	02-09	03-09	04-09	05-09	06-09	07-09	08-09	09-09	10-09	11-09	12-09
Linear	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Option	01-09	02-09	03-09	04-09	05-09	06-09	07-09	08-09	09-09	10-09	11-09	12-09
S-Curve	26.52	104.88	323.06	789.30	1462.17	2120.93	2401.43	2120.93	1447.85	774.98	323.06	104.88
On Start and Finish	600	0	0	0	0	0	0	0	0	0	0	11400

Cumulative

Option	01-09	02-09	03-09	04-09	05-09	06-09	07-09	08-09	09-09	10-09	11-09	12-09
Linear	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
S-Curve	26.52	131.40	454.46	1243.76	2705.93	4826.86	7228.29	9349.22	10797.07	11572.10	11895.10	11999.99
On Start and Finish	600	600	600	600	600	600	600	600	600	600	600	12000

To set up budget distribution for activities at the activity level

1 Open a schedule sheet.

2 Highlight an activity row in the sheet.

3 Choose **File > Budget and Progress Setup > Activity**.

4 Under the **Activity Budget Distribution Profile** section, choose an option. This option will apply specifically to the selected activity, and will override any default option set up at the schedule sheet level. The behavior of these Activity Budget Distribution Profile options at the activity level is the same as the default options at the schedule sheet level. See "To set up budget distribution for activities at the schedule sheet level" on page 425 for details.

Select the entry method for the % complete and earned progress

You can select an entry method for the progress and earned progress data, and can enter progress (both resource and activity) and earned progress independently. Also, you can select an entry method that allows you to enter the progress of activity or resource then calculate earned progress, or enter earned progress and calculate progress for an activity or resource.

To select the entry method for the % complete and earned progress for activities at the schedule sheet level

1 Open a schedule sheet.

2 Choose **File > Budget and Progress Setup > Schedule Sheet**.

3 In the **Default % Complete and Earned Progress** section, choose a default entry method. This entry method will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different entry method for an individual activity.

Use this Entry Method	To do this:
Independently Control % complete and earned quantity	Enter the progress of activity or resource independent of earned progress.
Activity and resource % complete updates % earned	Enter the progress of activity or resource, and earned progress will be automatically calculated.
Activity and resource % earned updated % complete	Enter the earned progress of activity or resource, and progress will be automatically calculated.
Do not allow update of % complete and % earned	**Not** enter either progress or earned progress. You cannot enter any type of activity progress information with this option selected.

To select the entry method for the % complete and earned progress for activities at the activity level

1 Open a schedule sheet.

2 Highlight an activity row in the sheet.

3 Choose **File > Budget and Progress Setup > Activity**.

4 Under the **% Complete and Earned Progress** section, choose an entry method. This option will apply specifically to the selected activity, and will override any default entry method set up at the schedule sheet level. The behavior of these % Complete and Earned Progress Entry Method options at the activity level is the same as the default options at the schedule sheet level. See "To select the entry method for the % complete and earned progress for activities at the schedule sheet level" on page 426 for details.

Select the calculation method for % complete

You can select an option that allows you to enter progress information for a key quantity (referred to as the Leader) of an activity which will determine the overall progress of other resources and the activity itself. For example:

- **Example 1:** Assume that there are two resources on an activity, called Resource 1 and Resource 2. If the key quantity is Resource 1 and you enter progress (say 30%) on Resource 1, then Resource 2 should also progress with same 30%. Also, overall activity progress should progress by 30%.

- **Example 2:** Assume that the key quantity (Leader) in this example is Activity % Complete. If you enter progress of 50% on the activity, Resource 1 and Resource 2 are updated with the same progress of 50%.

The key quantity is referred to as the Leader in Unifier.

To select the % complete calculation method for activities at the schedule sheet level

1 Open a schedule sheet.

2 Choose **File > Budget and Progress Setup > Schedule Sheet**.

3   Under the **Default % Complete Calculation Method** section, choose an option. This option
       will apply to all activities in the schedule sheet, unless it is overridden by the selection of a
       different option for an individual activity.

> **Note:** *Company holidays based on company calendar should be considered while distributing*
> *budget. Budget should not be distributed on days that are marked as holidays on company*
> *calendar.*

Use this Calculation Method	To do this:
Manual activity % complete and resource % complete	Enter the progress of activity and resource independent of each other. Entering Activity % Complete will not update resource progress and entering resource % complete will not update Activity % Complete.
Manual activity % complete - updates resource % complete	Enter the progress of an activity, and resource % complete will be updated automatically. If this option is selected, Activity % Complete will become the key quantity or Leader, which will control the progress of the entire activity, including resources.
Resource updates Activity - weighted avg. of resource costs	Enter progress for each resource independently. Activity % Complete is read-only and will be automatically calculated based on weighted resource cost. The following formula is used to calculate this value: {Sum of [Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources are considered in this calculation, including hard booked resources.
Resource updates Activity - weighted avg. of resource hours	Enter progress for each resource independently. Activity % Complete will be read-only and will be automatically calculated based on weighted resource man hours. The following formula is used to calculate this value: {Sum of [Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Quantity) } * 100 The only resources considered in this calculation are hard booked resources.

> **Note:** *Progress entry for Resource and Activity before importing Resource Assignment Attribute form*
> *is based on Activity % Complete and Resource % Complete. After the Resource Assignment*
> *Attribute form is imported, progress on activity will be Activity % Complete, but for Resource it*
> *is Progress Quantity the data element. Resource % Complete is then read-only and always*
> *calculated.*

To select the % complete calculation method for activities at the activity level

1   Open a schedule sheet.

2   Choose **File > Budget and Progress Setup > Activity**.

3   Under the **% Complete Calculation Method** section, choose an option. This option will apply specifically to the selected activity, and will override any default entry method set up at the schedule sheet level. The behavior of these % Complete Calculation Method options at the activity level is the same as the default options at the schedule sheet level. See "To select the % complete calculation method for activities at the schedule sheet level" on page 427 for details. The exception is **Lead resource updates Activity and other resources**, described in the next step.

4   Under the activity level, you can select **Lead resource updates Activity and other resources**, and choose resources (including hard booked) that are assigned to the activity on the Resource tab. This option allows you to select a resource as a key quantity or a Leader. If you select this option and a resource from the drop down menu, then you can enter progress on only that resource. Activity % Complete and Resource % Complete on all other resources are read-only and will be automatically calculated based on the progress entered on key quantity or leader resource.

For example:

Assume that there is an activity with Resource 1 and Resource 2, with the Activity % Complete at 0%:

Resource	Work Hours	% Complete
Resource 1	200	0
Resource 2	500	0 (read-only)

For a further example, assume that Resource 1 is the key quantity or Leader, with the Activity % Complete at 30%:

Resource	Work Hours	% Complete
Resource 1	200	30
Resource 2	500	30 (read-only)

You can change the Lead resource updates Activity and other resources drop down menu selection until there is progress or earned progress entries for the activity or resource. After progress or earned progress data is entered, the Budget and Progress Method Setup for the activity is disabled and you cannot delete the resource selected as Leader. If you find that you must change the settings for the activity, you must delete the activity and start over with new data and settings.

Select the calculation method for % earned

Earned progress is a quantitative measurement to indicate how much has been earned on an activity over its duration. Earned progress can be represented by amount, quantity and a percentage value.

Earned progress is based on the progress entered on an activity. Activities can earn progress in when progress is entered, or by % of activity budget, when the activity is started and earn remaining the remaining percentage when that activity completes.

Unifier allows you to accumulate and calculate earned progress for an activity as well as resources assigned to an activity:

- Earned Progress is calculated at activity level and each resource assigned to that activity.
- Earned Progress calculated under a schedule sheet for activity and assigned resources is used later in the Earned Value module (in the Cost Manager) to calculate Budgeted Cost of Work Performed (BCWP).
- Earned Progress calculated at the activity level is used when BCWP needs to be represented by the cost.
- Earned Progress calculated at resource assignment level is used when BCWP is represented by a unit of measure (for example, Hours).

To select the % earned calculation method for activities at the schedule sheet level

1 Open a schedule sheet.

2 Choose **File > Budget and Progress Setup > Schedule Sheet**.

3 Under the **Default % Earned Calculation Method** section, choose an option. This option will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different option for an individual activity.

Use this Calculation Method	To do this:
Manual activity % earned and resource % earned	Enter earned progress of activity and resource independent of each other. Entering Activity earned progress will not update resource earned progress and entering resource earned progress will not update activity earned progress.
Manual activity % earned - updates resource % earned	You can select this option only if Manual activity % earned and resource % earned is selected. Allows you to enter earned progress of an activity and resource earned progress will be updated automatically.
Resource updates Activity - weighted avg. of resource costs	Enter earned progress for each resource independently. Activity earned progress will be read-only and will be automatically calculated based on weighted resource cost. Following formula will be used. (Sum of Resource Cost * Resource Earned Progress / Total Activity Work Hours) * 100 All resources will be considered in this calculation including hard booked resources.
Update Activity and all resources on activity start and finish % earned on Actual Start and Actual Finish	Allow the system to calculate earned progress based on actual start and finish of the activity • % earned on Actual Start: This option will allow user to enter % that should be earned on start of the activity. User can enter a value. • % earned on Actual Finish: This is a read-only field. Should always be calculated based on % earned on Actual Start. Value for this filed should be (100 - % earned on Actual Start). If you select this option, earned progress is calculated based on Update Activity and all resources on activity start and finish of the activity. Unifier will automatically calculate earned progress for activity and assigned resources when actual start and finish dates are entered.

To select the % earned calculation method for activities at the activity level

1 Open a schedule sheet.

2 Choose **File > Budget and Progress Setup > Activity**.

3 Under the **% Earned Calculation Method** section, choose an option. This option will apply specifically to the selected activity, and will override any default entry method set up at the schedule sheet level. The behavior of these % Earned Calculation Method options at the activity level is the same as the default options at the schedule sheet level. See "To select the % earned calculation method for activities at the schedule sheet level" on page 430 for details. The exception is **Lead resource updates Activity and other resources**, described in the next step.

4 Under the activity level, you can select **Lead resource updates Activity and other resources**, and choose resources (including hard booked) that are assigned to the activity on the Resource tab. This option allows you to select a resource as a key quantity or a Leader. If you select this option and a resource from the drop down menu, then you can enter progress on only that resource.

For example:

Assume that there is an activity with Resource 1 and Resource 2, with the Earned Progress at 0%:

Resource	Work Hours	% Complete
Resource 1	200	0
Resource 2	500	0 (read-only)

For a further example, assume that Resource 1 is the key quantity or Leader, with the Earned Progress at 30%:

Resource	Work Hours	% Complete
Resource 1	200	30
Resource 2	500	30 (read-only)

You can change the Lead resource updates Activity and other resources drop down menu selection until there is progress or earned progress entries for the activity or resource. After progress or earned progress data is entered, the Budget and Progress Method Setup for the activity is disabled and you cannot delete the resource selected as Leader. If you find that you must change the settings for the activity, you must delete the activity and start over with new data and settings.

Select WBS codes filtered by workpackage (schedule sheet level only)

An activity in a schedule sheet can be associated with one or more WBS Codes. This assignment is used to create a mapping between costs associated with an activity to a Cost Code (WBS Code). Unifier allows you to choose a workpackage to use to filter the WBS codes you can select in the Activity Properties, WBS Codes tab. You can choose one workpackage to use as a filter.

Note: *The Workpackage must be active and contain WBS codes, and also transactions must have occurred using the pertinent WBS codes, or the WBS codes tab will not contain codes for you to select.*

To filter WBS codes by workpackage

1   Open a schedule sheet.

2   Choose **File > Budget and Progress Setup > Schedule Sheet**.

3   Under the **Additional Options** section, in the **Workpackage** field, click **Select**.
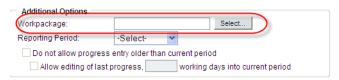
Figure 8-28 Workpackage selection

Lock the reporting and progress entry period (schedule sheet level only)

You can prevent users from entering or modifying progress data entries made prior to the current week or the current month. These selections allow you to control the activity and resource data entered on the Activity Progress window. See "Entering Progress in the Activity Progress Window" on page 434 for details.

To specify a restriction on data entry or reporting for progress data

1   Open a schedule sheet.

2   Choose **File > Budget and Progress Setup > Schedule Sheet**.

3   Under the **Additional Options** section, in the **Reporting Period** field, select **Week** or **Month**.
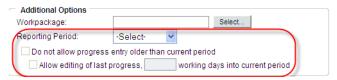
Figure 8-29 Reporting Period selections

4   Check the **Do not allow progress entry older than current period** checkbox. This checkbox works in conjunction with Reporting Period that you select. If you select Week as the reporting period then users cannot enter or modify progress entered prior to current week; if you select Month as the reporting period then users cannot enter or modify progress entered prior to current month.

5   In addition, you can select **Allow editing of last period progress** and specify a number of working days into the current period. Selecting this option allows users to modify progress of the last period (based on the reporting period) until a specified number of days into the current period.

6   Click **OK**.

ENTERING PROGRESS DATA ON THE GENERAL AND RESOURCE TABS OF ACTIVITY PROPERTIES

The Resource Assignment Attribute form (when imported, replaces the Resources tab of the Activity Properties and provides data elements to other areas) contains fields related to resources assigned to an activity to that allow you to enter effort and expense information related to that effort. The Resource Assignment Attribute form allows you to assign a resource to a Resource Type, rather than to a hard booked resource. Also, it allows the capture of progress with respect to effort, and the base lining of resource assignment. See the *Unifier Administration Guide*, Schedule Manager Setup chapter, for details on this form.

The Schedule Attribute form is used as the General tab of the Activity Properties can also include fields that allow you to enter progress and earned progress data. See the *Unifier Administration Guide*, Schedule Manager Setup chapter, for details on this form.

The ability to enter progress and earned progress on the Schedule Attribute and the Resource Assignment Attribute forms is based on the options selected on the Budget and Progress Setup for a given activity. See "Setting Up the Budget and Progress Method" on page 422. Fields on the forms are editable or read-only and calculated based on the option settings.

This progress or earned progress is time stamped when entered:

- For an activity:
  - Date on which the progress or earned progress is entered or calculated.
  - Activity % Complete value
  - Earned Progress value
- For a resource:
  - Date on which the progress quantity and or earned progress is entered or calculated
  - Progress Quantity value
  - Earned Progress value

You can access time stamped information through the Activity Progress Log or the Resource Progress Log. See "Using the Activity Progress and Resource Progress Logs" on page 438 for details on the logs.

The calculations used to derive progress and earned progress are explained in "Progress and Earned Progress Calculations" on page 440.

To enter data into the attribute forms

1 Navigate to a schedule sheet.

2 Click an activity name.

3 On the **General** tab, you can enter progress or earned progress data in these fields, depending on settings on the Budget and Progress Setup window, and if the data elements for these fields have been added to the Schedule Attribute form and that form has been imported:

- Earned Progress
- Earned Amount
- Forecast 1 Start
- Forecast 1 Finish
- Activity Percent 1

4 On the **Resource** tab, you can enter progress or earned progress data in these fields, depending on settings on the Budget and Progress Setup window, and if the data elements for these fields have been added to the Resource Assignment Attribute form and that form has been imported The fields you see may vary:

- Resource Name
- Resource Type
- Quantity (Qty)
- UOM
- Amount
- % Units
- Earned Progress
- Earned Amount
- ETC
- ETC Amount
- Resource % 1

> **Note:** *You can double-click the resource name to view the Resource Assignment Attribute form in view-only mode.*

5 Click **Add**.

6 Enter resource data as needed.

7 Click **OK**.

ENTERING PROGRESS IN THE ACTIVITY PROGRESS WINDOW

The Activity Progress window allows users to quickly modify the daily activity and resource progress data for a selected activity. Users can move down the rows of activities with the Activity Progress window open and quickly modify the progress for each activity without having to open the activity.

> **Note:** *The Activity Progress window is available only if the Resource Assignment Attribute form is designed and imported into Unifier.*

Enter Activity and Resource Progress Data

You can access the Activity Progress Log and the Resource Progress Log from the Activity Progress window. The logs display the progress data that is entered over time, and allow the user to view and modify the progress data for activities and resources. See "Using the Activity Progress and Resource Progress Logs" on page 438 for details.

> **Note:** *If you enter partial activity progress data, for example enter Activity Progress for a day, but do not enter the Resource Progress (or enter Resource Progress and do not enter Activity Progress at that time), and then save the data, you cannot enter the Resource Progress later that day. You can however, enter the progress the next day.*

To view or enter activity progress on the Activity Progress window

1 Navigate to a schedule sheet.

2 Highlight an activity name.

3 Click the **Progress** button. The Activity Progress window opens on the right side.
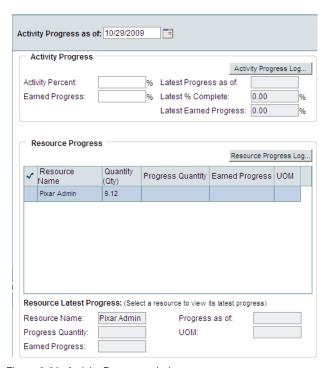
Figure 8-30 Activity Progress window

The Activity Progress and Resource Progress fields are editable or read-only depending on settings on the Budget and Progress Method setup window.

In this field:	Do this:
Activity progress as of	Select a date for which you want to enter progress data. Today's date shows by default. This date is used as the time stamp for progress data entered on this window. If you choose a date that conflicts with the date restriction you have set up on the Budget and Progress Method Setup under Additional Options (see "Lock the reporting and progress entry period (schedule sheet level only)" on page 432 for details) you will receive a warning message. If you have select the Reporting Period: • **Week:** You cannot select a date prior to current week. Weeks are counted as Sunday to Saturday. For example, if today is Monday, June 22, you cannot select a date prior to Sunday, June 21. • **Month:** You cannot select a date prior to current month. For example if the current month is June 2009, you cannot select a month prior to June 2009. You can select a date in the future if it is in the current period. You cannot select a date which is designated as a company holiday on company calendar.
Activity Progress - latest activity progress information	

In this field:	Do this:
Activity Progress Log button	Click to access the Activity Progress Log. See "Using the Activity Progress and Resource Progress Logs" on page 438 for details. This log displays all activity progress entries made by user.
Activity Percent Complete	Enter or view activity progress data. This field is read-only or editable based on settings in Budget and Progress Method setup window for the activity. Unless you enter a value, the latest previously-entered value is retained in this field.
Earned Progress	Enter or view activity progress data. This field is read-only or editable based on settings in Budget and Progress Method setup window for the activity. Unless you enter a value, the latest previously-entered value is retained in this field.
Latest Progress as of	View latest date on which Activity progress was calculated.
Latest % Complete	View the latest activity % complete.
Latest Earned Progress	View the latest earned progress of the activity.
Resource Progress - latest resource progress information	
Activity Progress Log button	Click to access the Resource Progress Log. See "Using the Activity Progress and Resource Progress Logs" on page 438 for details. This log displays all resource progress entries made by user.
Leader Column	View an icon to indicate the leader selected on the Budget and Progress Method Setup window.
Resource Name	View the name of the resource. This column will show Resource Name for each resource from resource assignment form.
Quantity	View the quantity for each resource from the Resource Assignment Attribute form.
Progress Quantity	Enter progress quantity. Unless you enter a value, the latest previously-entered value is retained in this field.
Earned Progress	View the earned quantity of each resource, which is associated with the Earned Progress on Resource Assignment Attribute form. Unless you enter a value, the latest previously-entered value is retained in this field.
UOM	View the unit of measure for each resource from the Resource Assignment Attribute form.
Resource Latest Progress - latest progress information for each resource. Select a resource listed under Resource Progress to see the latest progress for each resource.	
Resource Name	View the name of the selected resource.
Progress as of	View the latest progress entry date of the resource.
Progress Quantity	View the latest progress quantity entered.
Earned Progress	View the latest earned quantity of the resource.
UOM	View the unit of measure for the resource.

4   Click **Save**.

5   Click the **Gantt** button to exit the Activity Progress window.

To view or enter activity progress on the Activity Progress window for a summary activity

1   Navigate to a schedule sheet.

2   Highlight a summary activity name.

3   Click the **Progress** button. The Activity Progress window opens on the right side.

Figure 8-31 Activity Progress window

In this field:	Do this:
Activity % Complete	View the activity percent complete for the activities.
Latest Progress as of	View the latest progress entry date across all leaf activities under the selected summary activity.
Earned Progress	View the latest earned quantity of the activities.

4   Click **Save**.

5   Click the **Gantt** button to exit the Activity Progress window.

Export and Import Activity Progress data

You can export and import to import Activity Progress using CSV files. This CSV export and import functionality is available only if the Resource Assignment Attribute form has been imported.

To export Activity Progress data

You can export Activity Progress data to a CSV file with latest activity and resource information. The CSV will only contain leaf level activities. This is an example of an exported Activity Progress CSV file:
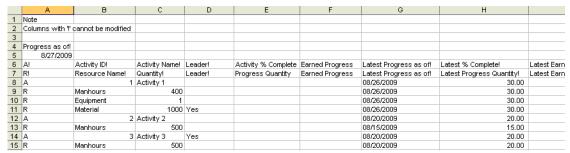
Figure 8-32 Example of Activity Progress CSV file

In the example, notice that the first column is named *Progress as of!*. This date is used as a timestamp on the progress information. There are two headers in this example file:

Notice that there is a *Leader!* Column. This column identifies which row is a leader for an activity. This is based on Budget and Progress setup profile option of an activity. If the activity is updating all resources then the activity shows *Yes* in the Leader column. If a resource is updated all other resources then the resource shows *Yes* in the Leader column. For all other options, the Leader column will be empty.

1   In a schedule sheet, choose **File > Export > Activity Progress Template**.

2   Modify the CSV file as needed to add activity progress data.

3   Save the CSV file and import.

To import Activity Progress data

1   In a schedule sheet, choose **File > Import > Activity Progress**.

2   Browse to select the CSV file to import.

3   Click **OK**.

USING THE ACTIVITY PROGRESS AND RESOURCE PROGRESS LOGS

After entering activity or resource progress data, the user can view or modify the data by going to an Activity Progress Log or Resource Progress Log. These logs are accessible only from the Activity Progress window. From these logs, the user can view progress effective date, progress quantity and earned quantity. The user can also modify the progress and earned quantity data, for the most recent entry and for entries in the past, depending on the settings for the editing of period progress on the Budget Progress and Method Setup window. See "To specify a restriction on data entry or reporting for progress data" on page 432 for details.

For example, you might want to use this log to modify data if you need to change past progress data based on actual start of data calculation, which saves you from having to delete the activity and loose all of the data associated with that activity.

Note: *Modifying log information will not change the current information on Schedule Attribute form and Resource Assignment Attribute form unless data related to today is modified.*

To view or modify progress data from the Activity Progress or Resource Progress logs

1   Navigate to a schedule sheet.

2   Highlight a summary activity name.

3   Click the **Progress** button. The Activity Progress window opens on the right side.

4   Click the **Activity Progress Log** button or **Resource Progress Log** button.
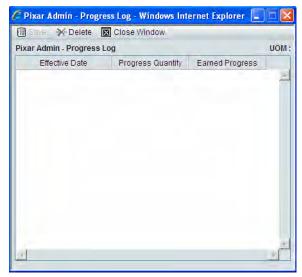
Figure 8-33 Progress Log, example

5 Modify progress data as needed. Select the row you want to modify and double click the cell that needs to modify. The Progress Quantity or Earned Progress columns can be editable depending on settings on Budget and Progress Method Setup window for the activity.

6 Click **Save**.

PROGRESS AND EARNED PROGRESS CALCULATIONS

. . . .

> **Note:**   *The calculations described in this section pertain to the progress and earned progress data accumulation and calculation discussed in "Project Progress Data Accumulation and Calculation" on page 421. If you do not need to work with progress or earned progress data to ultimately calculate Earned Value, you do not need to read this section.*

This section explains calculations involved in calculating progress and earned progress at activity and resource level based on different options selected on Budget and Progress Method setup window. The data elements on the Schedule Attribute and Resource Assignment Attribute forms are considered and affected by the progress and earned progress calculations are:

- Activity
  - Total Cost
  - Activity % Complete
  - Earned Progress
  - Earned Amount (Value of this data element is always based on uDesigner Design)
- Resource
  - Quantity
  - Rate
  - Amount
  - Resource % Complete (Value of this data element is calculated as (Progress Quantity / Quantity) %
  - Progress Quantity
  - Earned Quantity
  - Earned Amount (Value of this data element is always based on uDesigner Design)

The calculations are described in terms of the calculation options in relation to the % Complete and Earned Progress entry method selected:

- "Independently Control % complete and Earned quantity" on page 440
- "Activity and resource % complete updates % earned" on page 452
- "Activity and resource % earned updates % complete" on page 456
- "Do not allow update of % complete and % earned" on page 460

See "Select the entry method for the % complete and earned progress" on page 426 for details on these methods.

INDEPENDENTLY CONTROL % COMPLETE AND EARNED QUANTITY

This section contains scenarios for calculations based on the entry method **Independently Control % complete and earned quantity** and the **% Complete Calculation Method** option selected.

% Complete Calculation Method is Manual activity % complete and resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete and resource % complete**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete and resource % complete
- % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete and resource % complete
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted avg. of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete and resource % complete

- % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (Weighted Cost) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Lead resource updates Activity and other resources
This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish
If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete and resource % complete
- % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (Weighted Cost) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		

Activity or Resource	Data Element	Data Entry Method
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, when Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

% Complete Calculation Method is Manual activity % complete - updates resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete - updates resource % complete**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete - updates resource % complete
- % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete - updates resource % complete
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Calculated (read-only). (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted avg. of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete - updates resource % complete
- % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Manual Entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

- % Complete Calculation Method option = Manual activity % complete - updates resource % complete
- % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Calculated based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, when Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

% Complete Calculation Method is Resource updates Activity - weighted avg. of resource hours

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource hours**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } * 100 Only hard booked resources will be considered.
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual Activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } * 100 Only hard booked resources will be considered.
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted avg. of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } * 100 Only hard booked resources will be considered.
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		

Activity or Resource	Data Element	Data Entry Method
	Activity % Complete	Calculated (Weighted Hours) and (read-only). {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } * 100 Only hard booked resources will be considered.
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

% Complete Calculation Method is Resource updates Activity - weighted avg. of resource costs

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource costs**.

<u>**% Earned Calculation Method option is Manual activity % earned and resource % earned**</u>

If the entry method and option settings on the Budget and Progress Method Setup window are:

• % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

• % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs

• % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered.
	Earned Progress	Manual entry

Activity or Resource	Data Element	Data Entry Method
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All booked resources will be considered.
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted avg. of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
- % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered.
	Earned Progress	Calculated (Weighted Cost). {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
- % Earned Calculation Method option = Update Activity and all resource on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		

Activity or Resource	Data Element	Data Entry Method
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered.
	Earned Progress	Calculated (read-only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% When Actual Finish is entered, Earned Progress = 100%
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

% Complete Calculation Method is Lead resource updates Activity and other resources

This section contains scenarios based on the option selected for % Complete Calculation Method being **Lead resource updates Activity and other resources**. There is only one data entry scenario for this setting.

% Earned Calculation Method option is Lead resource updates Activity and other resources

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Lead resources updates Activity and other resources.
- % Earned Calculation Method option = Lead resource updates Activity and other resources

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered.
	Earned Progress	Calculated (Weighted Cost) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual Entry (Only resource that is selected under dropdown). For all other resources, Progress Quantity will be calculated based on (Leader Progress Quantity / Leader Quantity) * Resource Quantity
	Earned Progress	Manual Entry (only resource that is selected under dropdown). For all other resources, Progress Quantity will be calculated based on (Leader Earned Quantity / Leader Quantity) * Resource Quantity

ACTIVITY AND RESOURCE % COMPLETE UPDATES % EARNED

This section contains scenarios for calculations based on the entry method **Activity and Resource % Complete Updates % Earned** and the **% Complete Calculation Method** option selected.

% Complete Calculation Method is Manual activity % complete and resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete and resource % complete**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

• % Complete and Earned Progress entry method = Activity and resource % complete updates % earned

• % Complete Calculation Method option = Manual activity % complete and resource % complete

• % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) Same as Progress Quantity

% Complete Calculation Method is Manual activity % complete - updates resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete - updates resource % complete**. There is only one data entry scenario for this setting.

<u>% Earned Calculation Method options are not available</u>

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % complete updates % earned

- % Complete Calculation Method option = Manual activity % complete - updates resource % complete

- % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Calculated (read-only) (Activity-level Activity % Complete * Quantity)
	Earned Progress	Calculated (read-only) Same as Progress Quantity

% Complete Calculation Method is Resource updates Activity - weighted avg. of resource hours

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource hours**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % complete updates % earned
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 Only hard booked resources will be considered
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) Same as Progress Quantity

% Complete Calculation Method is Resource updates Activity - weighted avg. of resource costs

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource costs**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % complete updates % earned
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
- % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) Same as Progress Quantity

% Complete Calculation Method is Lead resource updates Activity and other resources

This section contains scenarios based on the option selected for % Complete Calculation Method being **Lead resource updates Activity and other resources**. There is only one data entry scenario for this setting.

% Earned Calculation Method option is Lead resource updates Activity and other resources

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % complete updates % earned

- % Complete Calculation Method option = Lead resource updates Activity and other resources

- % Earned Calculation Method option = Lead resource updates Activity and other resources

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		

Activity or Resource	Data Element	Data Entry Method
	Progress Quantity	Manual entry. (Only resource that is selected under dropdown). For all other resources, Progress Quantity will be calculated based on (Leader Progress Quantity / Leader Quantity) * Resource Quantity
	Earned Progress	Calculated (read-only) Same as Progress Quantity

ACTIVITY AND RESOURCE % EARNED UPDATES % COMPLETE

This section contains scenarios for calculations based on the entry method **Activity % Earned and Resource % Earned Updates % Complete** and the **% Earned Calculation Method** option selected.

% Earned Calculation Method is Manual activity % earned and resource % earned

This section contains scenarios based on the option selected for % Earned Calculation Method being **Manual activity % earned and resource % earned**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

• % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
• % Complete Calculation Method option = Not available
• % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual entry

% Earned Calculation Method is Manual activity % earned - updates resource % earned

This section contains scenarios based on the option selected for % Earned Calculation Method being **Manual activity % earned - updates resource % earned**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
- % Complete Calculation Method option = Not available
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (read-only) (Activity-level Earned Progress * Quantity)

% Earned Calculation Method is Resource updates Activity - weighted avg. of resource costs

This section contains scenarios based on the option selected for % Earned Calculation Method being **Resource updates Activity - weighted avg. of resource costs**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
- % Complete Calculation Method option = Not available
- % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered
Resource		

Activity or Resource	Data Element	Data Entry Method
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual entry

% Earned Calculation Method is Lead resource updates Activity and other resources

This section contains scenarios based on the option selected for % Earned Calculation Method being **Lead resource updates Activity and other resources**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

• % Complete and Earned Progress entry method = Activity and resource % earned updates % complete

• % Complete Calculation Method option = Not available

• % Earned Calculation Method option = Lead resource updates Activity and other resources

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered.
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual Entry (Only resource that is selected under dropdown). For all other resources, Earned Progress will be calculated based on (Leader Earned Progress / Leader Quantity) * Resource Quantity

% Earned Calculation Method is Update Activity and all resources on start and finish

This section contains scenarios based on the option selected for % Earned Calculation Method being **Update Activity and all resources on activity start and finish**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

• % Complete and Earned Progress entry method = Activity and resource % earned updates % complete

• % Complete Calculation Method option = Not available

• % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (read-Only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% When Actual Finish is entered, Earned Progress = 100%
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (read Only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

DO NOT ALLOW UPDATE OF % COMPLETE AND % EARNED

When the Do not allow update of % complete and % earned entry method is selected, these fields are disabled.

- Activity
    - Activity % Complete
    - Earned Progress
- Resource
    - Resource % Complete
    - Progress Quantity
    - Earned Quantity

9 RESOURCE MANAGER

In this chapter

‣ *Using the Resource Manager*
‣ *Working with resource sheets*
‣ *Viewing and configuring resource dashboards*
‣ *About resource business processes*

ABOUT THE RESOURCE MANAGER

The Resource Manager is a complete solution for planning, deploying, managing, and tracking company resources. It supports the creation and management of resources and roles with the ability to define and leverage multiple role rates, skills, proficiency levels, resource capacities, and more.

Newly created resources can be associated with Unifier users, which enables resources to log in and view individual calendars and respond to assignments. Resources can be associated with one or multiple roles with different role rates. This allows for accurate resource cost tracking and management at the project level.

The Resource Manager supports time sheet business processes for capturing and tracking actual resource costs associated with activities and assignments at the project and the company level. An interactive Resource Dashboard provides the ability to track and report on all resource allocations, booking, utilization, and more.

In the Resource Manager, a company's personnel can serve multiple roles, depending on their skills or interests. For example, a construction role and a plumbing role might be served by one person who has both carpentry and plumbing skills.

The Resource Manager manages time sheets, and also hard and soft resource bookings using a calendar that shows what projects a resource has been booked for, as well as the resource's availability (minus vacation and other non-working days).

The Resource Manager automatically creates the following sheets users need to manage resources, bookings, and certain budgeting and forecast functions:

Sheet	Description
Allocations Summary Sheet	Master allocation sheet that shows role allocations at the company and project level. Read-only
Resource Allocation Sheet	Allows manual entry of role allocations against projects from company level so users can balance resources across projects. The Resource Allocation Sheet rolls up to the Allocations Summary Sheet at both the project and company level.
Booking Summary Sheet	Shows hard resource bookings across projects in both hourly and currency views. Read-only. Is populated by the Resource Booking business process.
Actuals Summary Sheet	Shows resource actuals from timesheet data for the company. Read-only. Populated by the Time Sheet business process.
Utilization Summary Sheet	Shows current total utilization of resources as a percentage of the total at the company level. Read-only.

USING THE RESOURCE MANAGER

The Resource Manager is available at the company and project level. The Resource Manager allows you to:

- View and configure resource charts
- View resources, roles, and various resource sheets
- Allocate roles to projects
- Have resources enter their own time sheets

At the company level, the Resource Manager has four nodes:

- **Resource Dashboard:** Allows you to configure displaying Resource Manager information across projects.
- **Roles:** Displays the company-level roles entered in Administration Mode.
- **Resources:** Displays the company-level resources that are hard-booked across projects.
- **Resource Sheets:** Lists the available company-level (cross-project) resource sheets.

At the Project level, the Resource Manager has three nodes:

- **Resource Dashboard:** Allows you to configure displaying Resource Manager information across projects.
- **Resources:** Displays resources that are hard-booked for the project.
- **Resource Sheets:** Lists the available project-level resource sheets.

View roles

Roles are defined and maintained in Administration Mode at the company level. At the company level, you can view role details, which includes resources and rates.

To view role details

1   In User Mode, select **Company Workspace tab> Resource Manager > Roles**. The Roles log opens.

2   Select a role and click **Open**. The Role Properties window opens. The window has three tabs:

- **General:** Displays the role name, description, and status, and may display other fields; the fields on this tab correspond to the role attribute form.
- **Rates:** Displays standard and overtime rates defined for the role.
- **Resources:** Displays resources that have been associated with the role.

For more information about the role properties, see the *Unifier Administration Guide*.

Figure 9-1 Roles log

View resources

Resources are defined and maintained in Administration Mode at the company level. You can view resources that are hard-booked for a project or across multiple projects.

To view resource details

1   In User Mode, do one of the following:

• To view resources across projects, select **Company Workspace tab> Resource Manager > Resources**.

• To view resources for a project, select **Projects tab > project > Resource Manager > Resources**.

The Resources log opens.

2   Select a resource and click **Open**. The Resource Properties window opens. The window has five tabs:

• **General:** This tab may vary greatly with the design of the resource attribute form you imported. Fields may include:

  • **Resource Code:** Automatically generated, manually entered, based on the configuration.

  • **Resource Name:** This is the name of the resource.

  • **Description:** Description of the resource.

  • **Resource Capacity (Hrs):** Default value is 8. This defines the number of hours a person can work in a day.

• **Roles:** Displays any roles that have been associated with the resource.

• **Skills:** Displays any skills associated with the resource.

• **Calendar:** The calendar displays bookings, vacation days, etc. for the resource.

• **Projects:** Displays the projects in which the resource is booked and booking specifics.

For more information about the resource properties, see the *Unifier Administration Guide*.

WORKING WITH RESOURCE SHEETS

View resource sheets

The company-level and project-level resource manager sheets are created automatically when the Resource Manager is activated in Administration Mode. The available resource sheets are:

- **Allocations summary sheet:** This is the master allocation sheet, which shows role allocations entered at the company and project level. This is a read-only sheet.
- **Resource allocation sheet:** The company-level resource allocation sheet allows role allocations against projects from the company level. The project-level resource allocation sheet allows role allocations for the project.
- **Booking summary sheet:** The booking summary sheet is a read-only sheet that shows resource bookings for a project or across projects in the company.
- **Actuals summary sheet:** The actuals summary sheet is a read-only sheet that shows resource actuals (time sheet data) for a project or across projects in the company.
- **Utilization summary sheet:** The utilization summary sheet is a read-only sheet that shows total utilization of resources for a project or across projects.

To view company-level sheets

1   In User Mode, select **Company Workspace tab> Resource Manager > Resource Sheets**. The Resource Sheets log opens.

2   Select a sheet from the log and click **Open**.

To view project-level sheets

1   In User Mode, select **Projects tab > project > Resource Manager > Resource Sheets**. The Resource Sheets log opens.

2   Select a sheet from the log and click **Open**.

See the descriptions below for details about each of the sheets. In general, the sheets work similarly to each other at the company and project level. In general, you can:

- View data by hours or by cost (not available on all sheets)
- Save or open the sheet as a PDF file, allowing you to save and print the sheet
- Create and view snapshots (not available on the resource allocation sheets)

For details, see the procedures later in this chapter.

The structure of each resource sheet is similar:

- The left pane of the sheet displays default columns, which depend on the sheet. For example, resource name, role name, etc.
- The right pane displays the time line columns. Depending upon the display (day, week, month), the time line will show a column for each period with the actual allocation in hours (hours view) or in currency (cost view).
- To change the timescale, click the **Display** field at the top of the sheet and choose one of the following:
  - **Day:** The column header will show the actual date of the allocation.
  - **Week:** The column header will show the actual date of the start of the week (Monday) from the company calendar.

- **Month:** The column header will show the actual date of the start of the month from the company calendar.
- In the upper right corner of each sheet is a time line slider:
  - **Start of the time line:** The earliest date that can be displayed on the time line will be the minimum of the default start date specified in the Resource Manager configuration and the earliest transaction date.
  - **End of the time line:** The latest date displayed on the time line will be the maximum of the default date specified in the Resource Manager configuration and the latest transaction date.
  - To quickly scroll through the date columns, you can click the slider in the top right corner of the sheet and slide it to the time period you wish to view.
  - **Default view:** By default, when the sheet is opened, the time line will always center on the current period (day, week, month). Scroll left or right to see other periods.

The resource sheets are described below.

Allocations summary sheet

This is a read-only sheet that totals resource data by role. There are two sources: company-level resource allocation sheet and project-level resource allocation sheet. You can view by hours (default mode) or cost.

Allocations are shown for each role. At the company level, allocations are shown for each role against one or more projects. The combination of role and project is always unique. The Role Name column is sorted alphabetically. The role name is hyperlinked. Clicking on the role name will open the Role properties window in view-only mode.

To view the allocations summary sheet

1 In the company-level or project-level Resource Sheets log, select **Allocations Summary Sheet** and click **Open**.

2 You can view this sheet by hours or by cost:
   - To view by hours, click the **View** menu and choose **Mode > Hours**. The sheet displays the hours charged against each resource, as rolled up from the resource allocation sheets.
   - To view data by cost, click the **View** menu and choose **Mode > Currency Amount**. The sheet displays the cost charged against each resource, as rolled up from the resource allocation sheets.
   - To display the most current costs, click the **Refresh Rates** button. Select the effective date when prompted. Rates will refresh from the selected date to all dates in the future for which values exist on the sheet. Costs for dates earlier to the selected date will not be refreshed. The date will default to the current date.

Figure 9-2 Company-level Resource Allocations Summary Sheet, view by cost

Column	Description
Role Name	Allocations are shown for each role against one or more projects. The combination of role and project is always unique. The Role Name column is sorted alphabetically. Clicking on the role name will open the Role properties window in view-only mode.
Project Number	The project number is shown hyperlinked. Clicking on the Project Number will open the corresponding project allocation summary sheet. This is shown in the company-level sheet only.
Project Name	The name of the project. This is in the company-level sheet only.
Date From	Displays the earliest date that has a non-zero allocation for the role.
Date To	Displays the latest date that has a non-zero allocation for the role.
Total Hours	Displays the sum of hours allocated to the role. This field is displayed only in hours view.
Total Cost	Displays the total amount allocated to the role. This field is displayed only in cost view.

Resource allocation sheet

In this sheet, you can create role-based allocations for projects if the Resource Manager is configured to allow allocations from the company level.

It allows manual entry of allocations into the sheet. Allocation at the company level:

• Rolls up to the resource allocations summary sheet at the company level.

• Rows filtered by projects are sent to individual project-level allocation summary sheets.

To view the resource allocation sheet

In the company-level or project-level Resource Sheets log, select **Allocations Summary Sheet** and click **Open**. This sheet can be viewed by hours only.
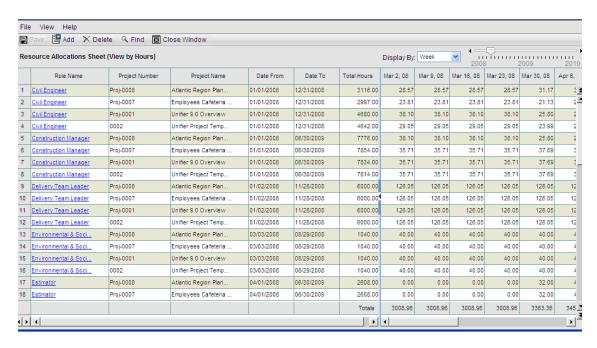
Figure 9-3 Company-level resource allocation sheet

Column	Description
Role Name	Allocations are shown for each role against one or more projects. The combination of role and project is always unique. The Role Name column is sorted alphabetically. Clicking on the role name will open the Role properties window in view-only mode.
Project Number	The project number of the allocation. This is displayed in the company-level sheet only.
Project Name	The name of the project. This is displayed in the company-level sheet only.
Date From	Displays the earliest date that has a non-zero allocation for the role.
Date To	Displays the latest date that has a non-zero allocation for the role.
Total Hours	Displays the sum of hours allocated to the role, This field is displayed only in hours view.

To allocate a resource

1   Open the Resource Allocation sheet.

2   Click the **Add** button. The Resource Allocation window opens.

3   Complete the window:

   • **Role Name:** Click **Select**, choose a role, and click **OK**.

   • **Project:** Click **Select**, choose a project, and click **OK**.

   • **Date From:** Click the calendar and choose the start date for the allocation.

   • **Date To:** Click the calendar and choose the end date for the allocation.

   • **Allocated Hours:** This field will auto-populate based on the dates selected (number of workdays x capacity). This is an editable field. You can adjust the amount as needed.

4   Click **OK**.
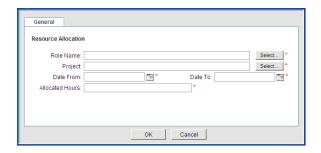
Figure 9-4 Resource Allocation window

To delete an allocation
Select a record and click **Delete**.

Booking summary sheet

In the booking summary sheet, you can view hard-bookings against allocations for your project or across projects (the combination of resource, role, and project is unique in the sheet). Resource booking rows are shown under each role. Data is rolled up from the project resource booking summary sheet.

View rates for each resource booking. View cell details by clicking on hyperlinked values.

You can view information by hours or cost. You can also group information by roles or by resources.

To view the booking summary sheet

1   In the company-level or project-level Resource Sheets log, select **Allocations Summary Sheet** and click **Open**.

2   You can view this sheet by hours or cost:
    • To view by hours, click the **View** menu and choose **Mode > Hours**. The sheet displays the hours charged against each resource, as rolled up from the resource allocation sheets.
    • To view data by cost, click the **View** menu and choose **Mode > Currency Amount**. The sheet displays the cost charged against each resource, as rolled up from the resource allocation sheets.

3   You can group by role or resource:
    • To group by role, click the **View** menu and choose **Group By > Role**. This is the default.
    • To group by resource, click the **View** menu and choose **Group By > Resource**. This groups the information by resource only. The role column is not applicable.
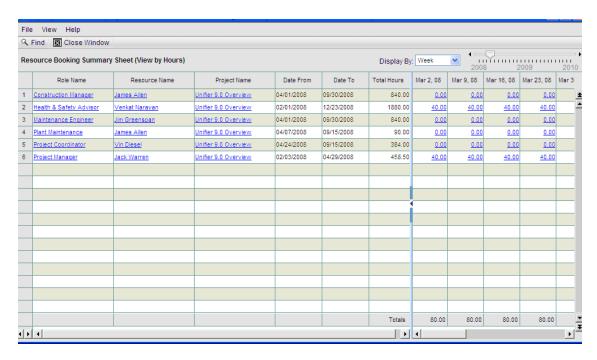
Figure 9-5 Company-level resources booking summary sheet

Column	Description
Role Name	Allocations are shown for each role. The role is always unique. The Role Name column is sorted alphabetically. The role name is hyperlinked. Clicking on the role name will open the Role properties window in view-only mode.
Resource Name	Bookings are shown for each resource against a role allocation. Resources are sorted alphabetically within a role. The resource name is hyperlinked. Clicking on the resource name will open the Resource properties window in view-only mode.
Project Name	Displays the project name for the booking row. The project name is hyperlinked and will open the project-level booking sheet. This column is displayed in the company-level sheet only.
Date From	Earliest date that a non-zero booking exists for the resource.
Date To	Latest date that a non-zero booking exists for the resource.
Total Hours	Total hours (shown in the hours view only).
Total Cost	Total cost in base currency (shown in the cost view only).
Average Rate	Average resource rate per hour in company currency (shown in the cost view only).

Actuals summary sheet

This sheet lists the actual time (hours) entered by each resource using time sheet business processes, displaying resource hours for the project or across projects.

You can select the time sheet BP to use.

To view the actuals summary sheet

1 In the company-level or project-level Resource Sheets log, select **Allocations Summary Sheet** and click **Open**.

2 You can view this sheet by hours or cost:

  • To view by hours, click the **View** menu and choose **Mode > Hours**. The sheet displays the actual hours from time sheets.

  • To view data by cost, click the **View** menu and choose **Mode > Currency Amount**. The sheet displays the cost charged against each resource from time sheets.
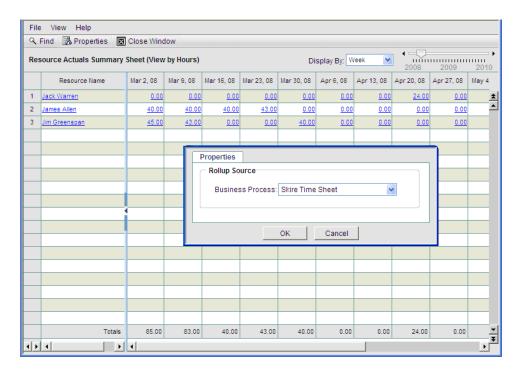
Figure 9-6 Company-level actuals summary sheet

Column	Description
Resource Name	This sheet displays hour and cost information for each resource that has submitted time sheet business processes.

To define the time sheet to roll up to the actuals sheet

1 On the actuals summary sheet, click the **Properties** button.

2 In the Business Process field, click the drop-down menu and choose the time sheet BP to use to roll up.

3 Click **OK**.

Utilization summary sheet

This sheet displays utilization in hours for each resource, per role.

Project level

The sheet displays utilization of resources as a percentage at the project level and is shown for each resource-role combination.

Utilization% = (Assigned Hours / Hard Booked Hours) *100

• Rolling over the cell value shows a break up of hard-booked hours and assigned hours.

• Utilization over 100% (over-utilization) is displayed in red.

This sheet cannot be opened unless the Schedule Manager is loaded or a master schedule sheet is created.

To view the project-level utilization summary sheet

In the project-level Resource Sheets log, select **Utilization Summary Sheet** and click **Open**. You can view this sheet by hours only.

Company level

The information is displayed across projects.

To view the company-level utilization summary sheet

In the company-level Resource Sheets log, select **Utilization Summary Sheet** and click **Open**. You can view this sheet by hours only.

Figure 9-7 Example company-level utilization summary sheet

Column	Description
Resource Name	Displays resources by name.
Role	Displays the role, per resource.

Print resource sheets

To print or create a PDF file of the sheet

1   Open the sheet. Choose to view by hours or cost.

2   Click the **File** menu and choose **Print**.

3   At the prompt, choose to open the file or save as a PDF file.

If you open the file, the file will open in Acrobat Reader, from which you can print the file. If you choose to save the file, you can save to your local drive and print or distribute as needed.

Save and view resource sheet snapshots

You can save a snapshot of all of the view-only sheets, except the resource allocation sheet.

To save a snapshot of the sheet

1   Open the sheet, and choose to view by hours or cost, where applicable.

2   Click the **File** menu and choose **Create Snapshot**.

3   Enter a title and click **OK**.

To view a snapshot

1   From the sheet, click the **File** menu and choose **Open Snapshot**.

2   Select a snapshot from the log and click **Open**.

VIEWING AND CONFIGURING RESOURCE DASHBOARDS

About Resource Manager dashboards

The dashboard is available in the company-level and project-level Resource Manager. It allows you to monitor resource planning and deployment.

Data is refreshed when the Resource Dashboard node is selected or changes are made.

You can configure the dashboard to display charts in two-column layout. Configuring the Resource Dashboard is similar to setting up the project or company summary, except that the available charts are system-based and not based on user-defined reports.

You can choose to display system-defined charts in resource management key performance areas.

Company Level	Project Level
Booking	Booking
Actuals	Actuals
Utilization	Utilization
Supply vs. Demand	

Supply vs. demand charts

These charts:

- Show allocations by role and compare them with resource daily capacity.
- Highlight issues with having too much demand that cannot be satisfied.
- Measure ability to satisfy resource demand and identify additional staffing needs.

These charts are used to display the existing demand (allocation) versus available capacity in the company. You can use these reports to verify that sufficient manpower is available in the company to satisfy this demand. The supply (or capacity) in this case is unconstrained and unnetted. This means that the capacity does not consider existing bookings (soft or hard).

Calculating values on the demand vs. supply charts:

Allocation % = Total Allocation / Total Capacity * 100

Allocation is obtained from the company allocation summary sheet for the specified range of dates. Total capacity will add capacity hours of all resources at the company level that can play the role (not limited to default roles) for the range of dates. Allocation cost is obtained from the company allocation summary sheet. The charts include active roles and active resources only. Capacity is based on the company calendar (working days only).

Actuals charts

These charts:

- Show actuals by role and corresponding bookings against the role.
- Highlight issues with costs going over budget.

Calculations on actuals charts (company level):

- Data obtained from the company-level summary sheets based on the current configuration of the time sheet BP on the sheet.
- Booking used is hard-booking.
- Booking is obtained from company booking summary sheet.

Calculations on actuals charts (project level):

- Data obtained from the project-level summary sheet based on the current configuration of the time sheet BP on the sheet.
- Booking used is hard-booking.
- Booking is obtained from the project booking summary sheet.

Booking charts

These charts are used to plot resource booking (soft and hard) against demand (allocation) and capacity:

- Show allocations by role and corresponding bookings against the role.
- Highlight issues with underbooking or overbooking.
- Show hard- and soft-booking.
- Successful satisfaction of resource demand via resource commitments (booking).

Calculations on the booking charts (company level):

- Booking obtained from company booking summary sheet for the specified range of dates.
- Allocation obtained from the company allocation summary sheet for the specified range of dates.
- Overbooking % = [(Total Booking – Capacity)/Capacity] * 100 (0% if negative).
- Total capacity will add capacity hours of all resources at the company level that can play the role (not limited to default roles).
- Booking cost is obtained from the company allocation summary sheet.
- Total Booking = Soft + Hard booking.

Calculations on the booking charts (project level):

- Booking obtained from the project booking summary sheet for the specified range of dates.
- Allocation obtained from the project allocation summary sheet for the specified range of dates.
- Booking cost is obtained from the project allocation summary sheet.
- Capacity, Overbooking and Unmatched Supply column to show only at company level.
- Total Booking = Soft + Hard booking.

<u>Utilization charts</u>

These charts:

- Show utilization of resources against budgeted project work.
- Resource Manager can see that all resources are adequately occupied with billable project work. Administrative work at the company level does not count.

Calculating values on the utilization charts (company level):

- Utilization % obtained from the company utilization summary sheet for the specified range of dates.
- Booking is obtained from the company booking summary sheet.
- Assigned hours is obtained by adding assigned hours on project schedule sheets across all projects.
- Utilization % = (Assigned Hrs / Hard Booked Hrs) * 100 (shows two decimal places).

Calculating values on the utilization charts (project level):

- Utilization % obtained from the project utilization summary sheet for the specified range of dates.
- Booking is obtained from the project booking summary sheet.
- Assigned hours is obtained by adding assigned hours from the project schedule sheets.

Configure the dashboard

You can configure the content layout by doing the following:

- Add one or more charts in each column.
- Set up filter conditions and title for each chart.
- Add the same chart multiple times to the same column and display the same report with different query parameters.

To configure the resource manager dashboard

1   From the Resource Dashboard log, click **Edit** and choose one of the following:

- **Left Column**: The Left Column Blocks window opens.
- **Right Column**: The Right Column Blocks window opens.

These are set up the same way.

2   To add a chart, click **Add**. Complete the Add Summary Block window:

- Report Name: Click **Select**. Choose a chart from the list and click **OK**. The report fields are auto-populated. You can edit the title if desired.
- Specify filter conditions:
  - Roles and projects are multiselect fields (you can choose one or more from the list).
  - If fields are left empty, it means all.
  - Project field is disabled in the project-level dashboard and displays the current project.
  - Shows current project.

To edit a chart on the blocks list
Select it from the list and click **Open**.

To delete a chart on the blocks list
Select it from the list and click **Delete**.

Figure 9-8 Example project resource dashboard

Print the dashboard

To print the dashboard

1   Navigate to the company-level or project-level resource dashboard.

2   Click **File > Print Preview**. A print preview window of the dashboard opens in an HTML view.

3   Click the **Print** button.

ABOUT RESOURCE BUSINESS PROCESSES

Resource-type business processes can be designed in uDesigner and imported into Unifier to work with the Resource Manager. There are two resource-type business processes that work with the Resource Manager: resource booking and time sheet.

Resource booking business process

This is used to book resources, that is, fill project requirements with an available resource from the company. Resources can be booked within the duration of resource allocation.

The design of the business process and status controls how a resource is soft-booked and hard-booked:

• When a record reaches a defined terminal status, the resource is hard-booked.

• While the record is in a non-terminal status, the resource is considered soft-booked.

• Resource Manager configuration determines if overbooking is allowed.

To use a resource booking business process
Open a project and launch the resource booking business process. In the upper form, pick a date range to book resources. The date range will constrain the detail form grid display. The line item list displays a summary of booking rows.
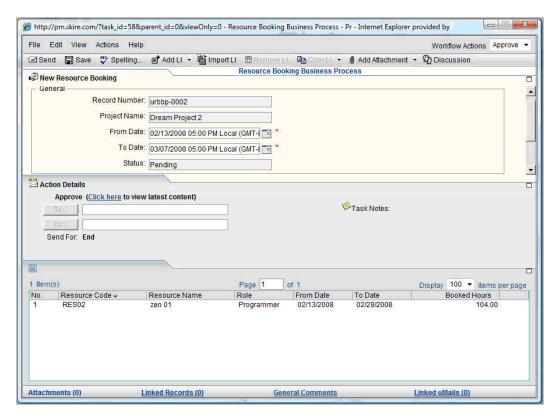
Figure 9-9 Example resource booking business process

- Click the **Add** button and choose **Detail Line Item**. The Find window opens.
- Click **Select** to allocate the role, and then click the **Search** button. The BP pre-populates with rows from the project allocations summary sheet.
- The resource is hard-booked when the terminal status Approved is reached in the workflow. The resource is soft-booked when the status is other than the terminal status, for example, Pending.

Time sheet business process

This can be used by resources to submit time sheets. Hours and costs can be rolled up to the actuals summary sheets of the Resource Manager. The BP can also be designed to roll up costs to the project cost sheet (Resource Actuals column).

The time sheet business process:

- Is used to capture the time a resource spends on a project.
- Calculates rates based on role properties
- Rolls up actuals to the actuals summary sheet at the company level and project level.

Multiple time sheet BPs can exist for a company. For example, a company may design one time sheet BP to capture and roll up time (hours) only. Another time sheet type BP can be used to design a reconciliation BP that references the time sheet and is used to capture, modify, and roll up actuals costs.

The time sheet business process is used to enter actual hours put in by the resource on each day. Time can be entered as regular work hours or over-time so that the appropriate billable rate can be applied. Time can be entered for company-level tasks, holidays, PTO, and project-level work. In all cases, an appropriate role can be picked or auto-populated. Also, an applicable company account code can be picked or auto-populated. For billable activities, the billable rate is obtained from the role or from the project booking (average booking rate), as applicable.

The time sheet BP can be used by company resources to enter their own time. In this case, the resource name is auto-populated from the user's login information. A separate time sheet schema can be used to report time on behalf of resources. For example, a company may allow a project manager or resource manager to report time for multiple resources.

In all cases, a time sheet record can only be used to report time for one resource for a particular week as specified on the upper form. Multiple line items can be created to enter time for various work types within the same week. For example, one line item can be created per project that the resource worked on during the week. Other line items may be used to report holidays, PTO, or company-level work. It is possible to create multiple time sheets for a resource for the same week.

The actual hours and corresponding costs are used to feed various sheets at the company and project level, including company and project actuals sheets, and company account and project costs sheets.

To use a time sheet business process
Open a project, and launch the time sheet business process.

The Week Of required field is the limiting factor for the line items. The week begins on Sunday.

UNDERSTANDING REVERSE AUTO-POPULATION

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be updated when other values are modified in a BP that has reached a specified status. Auto-population can occur on BPs that are in the same shell or across shells.

Depending on the setup in uDesigner, reverse auto-population can occur in these instances:

• Changes to data elements in a BP upper form can result in changes to the upper form of another BP.

• Changes to the detail form in a BP can result in changes to the upper form and detail form of another BP.

• Changes to the upper form or detail form of a BP can result in changes in the Asset, Resource, or Planning Manager forms.

In the Resource Manager, reverse auto-population might occur if a resource booking BP references a move order BP.

10 DOCUMENT MANAGER

In this chapter

▶ *About the Document Manager*
▶ *Creating and managing folders*
▶ *Creating and managing shortcuts*
▶ *Uploading files into the Document Manager*
▶ *Resolving missing drawing reference files (Reference Manager)*
▶ *Importing and exporting in the Document Manager*
▶ *Downloading documents and folders*
▶ *Adding and viewing graphic markups and comments*
▶ *Revising documents*
▶ *Working with business processes and the Document Manager*

ABOUT THE DOCUMENT MANAGER

The Document Manager provides a robust platform for maintaining a wide variety of files and documents, for example, drawings, spreadsheets, image files, specifications, and various Microsoft Office files. Files can be stored directly in the project or shell Documents node or organized into folders. You can also create shortcuts to commonly used files and folders. The system ensures that all members of your team are always working on the most current versions, and dramatically increases efficiencies by providing ready access to all documents from anywhere at any time.

The Document Manager is available at the project or shell level for project- or shell-specific documents, and at the company level for company-specific or cross-project or shell documents. At project/shell or company level, the Document Manager is integrated with business processes and the user-defined reports module. Files uploaded into the Document Manager are stored on the Unifier file server.

At both the project or shell level and the company level, the Document Manager consists of two nodes:

- **Project or shell/Company Documents**: This is the root node where published documents (that is, documents that are ready to be used by team members) are stored and managed. (The node is labeled project or shell Documents at the project or shell level, and Company Documents at the company level.) You will typically work out of this node when working with your company or project or shell documents. All uploads, downloads, revisions, markups, etc., are performed within this node. Access to specific folders, documents, and shortcuts is independently controlled by permissions.

- **Unpublished Documents**: This is the temporary, automatic repository for files that have been uploaded from local machines and attached to business processes, but which have not yet been published in project or shell documents or company documents. Typically, access to this node is limited by permissions, and a designated document administrator will publish documents from this node into the project or shell or Company Documents nodes for use by team members.

Before you begin

Before you begin, be sure you have the following defined:

File Transfer option: This option affects how files are transferred between your local system and Unifier. Before uploading or downloading documents, be sure to choose the File Transfer option in the User Preferences window, Options tab.

File Viewer option: This option affects how files are opened and viewed within Unifier. This option is also set in the User Preferences window, Options tab.

Third-party applications: If you choose the Intermediate or Advanced File Transfer option, you must have the Sun JRE applet and (for Advanced) the Unifier File Transfer Application installed. Use of the Cimmetry Markup Tool also requires installation of Sun JRE. These options are described in the "Choose a file transfer option" on page 17.

Permission settings: Like other modules within Unifier, access and use of the Document Manager is fully permission based, including for specific files and folders. Contact your project or shell or company administrator regarding general permission access to the Document Manager.

About ownership and permissions

Like other Unifier modules, access to the Document Manager features is based on permissions set at the module level in Administration mode. Each Document Manager node—project or shell Documents, Company Documents, and Unpublished Documents—have separate permissions. The Unpublished Documents node is controlled by module-level permissions in Administration Mode only.

In the project or shell and Company Documents nodes, access to specific folders, documents, and shortcuts is also independently controlled by permissions that can be set within the Document Manager.

Note: *Folder and document permissions are set at the folder level and can be changed independently or inherited by subfolders and documents. Unlike module-level permissions, permissions set at the folder level can differ from project or shell to project or shell.*

The creator of a folder, document or shortcut is, by default, its owner, and has full access (privileges to view, manage, grant permissions, delete, transfer ownership, etc.). The owner must grant other users or groups permission to view and manage these documents, folders, or shortcuts. Otherwise, other users will not have access to them. (Exception: some administrators will have access permissions and will be able to view all items in the document manager.)

For this reason, it is also important to verify the permission settings for all files and folders that you upload, create, revise, check in, copy, or modify to make sure that it is accessible by the people who need them.

For more information about permission settings, see "Modify folder permissions" on page 497, "Modify document permissions" on page 503, and "Modify shortcut permissions" on page 507.

Note: *Document Manager e-mail notifications as set in User Preferences are only sent if the user has at least view permission in the Document Manager node on the item triggering the e-mail, and if the item owner enables e-mail notification. If you make changes in the Document Manager root folder, to get e-mail notifications regarding events in the root folder, you must have at least view permission because the root folder has no owner.*

Enable Document Manager-generated e-mail notification

As with other modules within Unifier, there are events in Document Manager that can trigger e-mail notifications to other team members. There are three conditions that must be met in order for a user to receive Document Manager e-mails:

- **Folder Properties window, Options tab**: The owner or a user with modify properties permissions on a folder can select the **Send email notification so subscribed users** checkbox on the Options tab.

  This option enables notifications to be generated in the first place for items in the folder. That is, select the checkbox to notify users whenever the folder properties are modified. If the checkbox is not selected, no e-mails will be generated for the folder (or subfolders either, unless the box is selected for subfolders).

  Selecting or deselecting this checkbox will automatically apply to all subfolders automatically. This option will not override a user's e-mail subscription selection in User Preferences.

- **Permission setting in Document Manager**: A user has to be explicitly assigned at least view permissions (at the folder or document level in the Document Manager) to the specific folder, document, or shortcut target in order to subscribe to e-mail notifications.

For example, even if users have full access permission at the module level, they will not get e-mail notifications unless they are on the permission list for the folder, document, or shortcut for which the e-mail notification would normally be generated.

- **E-mail Subscription Preference**: The user must subscribe to the Document Manager e-mail notifications in User Preferences.

The events that can trigger e-mail notifications are document upload, transfer ownership, move, delete, document revise, and folder rename.

WORKING WITH PROJECT OR SHELL AND COMPANY DOCUMENTS

. . . .

About project or shell documents and company documents

The project or shell Documents node (in the project- or shell-level Document Manager) and the Company Documents node (in the company-level Document Manager) are the root nodes in which published documents (that is, documents that are ready to be used by team members) are stored and managed. You will typically work out of these nodes when working with your company or project or shell documents. All uploads, downloads, revisions, markups, etc., are performed here.

Permission-based access: Similar to a shared network storage drive, access to specific folders, files, and shortcuts is independently controlled by permissions. The user who creates a folder or shortcut, or uploads a file, is, by default, its owner, and has full access (privileges to view, upload, delete, download, etc.). The owner (could be the project or shell or company administrator) can set these permissions to allow or disallow access by other team members. For this reason, it is important to verify the permission settings for all files or folders of which you are the owner to make sure that they are accessible by the people who need them.

Editing and version control: The project or shell Documents and Company Documents nodes have check-in and check-out, document lock, and revision history capabilities enabling full version control.

Use with business processes: The Document Manager is integrated with business processes. You can initiate a BP from directly within the Document Manager and automatically attach selected files and folders.

Reporting: In addition, document and folder properties are associated with data elements, and are therefore fully reportable through user-defined reports.

Note: *The Document Manager does not support multibyte or Unicode characters in file names.*

Access project or shell documents and company documents

To access project or shell documents

1   Open a project or shell.

2   In the Navigator, click **Document Manager** to expand it.

3   Click **Documents**.

To access company documents

1   Open the company workspace.

2   In the Navigator, click **Document Manager** to expand it.

3   Click **Company Documents**.

Project or shell documents and company documents navigation

Document Manager navigation works the same way at the company level and the project or shell level. There are two panes in the project or shell and Company Documents node:

Folder view (or folder tree): Displays the project or shell or company documents folders and subfolders, similar to a network or local drive. Click the plus sign (**+**) next to the folder name to expand it and reveal subfolders, or click the minus sign (**-**) to collapse the structure. The order of the folders in this view can be changed (see "Organize folders" on page 499).

Project, shell, or company documents log (or document view): Displays the contents (subfolders, documents, empty documents, shortcuts) of the folder selected in the Folders view, in alphabetical order. The pane also displays the Recycle Bin, which contains files to be deleted from the system.

At the project or shell level, a Phase drop-down menu at the top of the pane allows users to display documents and folders applicable to the current phase or all phases (referring to the project or shell phase as maintained by the project or shell administrator; your project or shell may or may not contain phase-specific documents).

Tip: You can expand the project or shell Documents or Company Documents log and workspace by contracting the Unifier Navigator.

Project or shell Documents and Company Documents logs

The project or shell Documents and Company Documents logs display attributes about the documents and folders listed in them.

The log can be designed in uDesigner if the folder and document properties have been designed. The following shows the default display of the project or shell Documents and Company Documents logs. The log used in your Document Manager may vary. You may need to use the horizontal scrollbar to view all of the columns.

Icon/Column Heading	Description
	The folder or document-type or shortcut icon. The document icons shown in this example are for a bitmap, a formatted document, and a text file.
	Indicates that the file has comments.
	Indicates that the file is locked or unlocked.
Ref (check or X)	A checkmark indicates that reference files exist and are resolved; an X indicates that there are missing reference files.
BP	An icon indicates that the document is attached to one or more BP records.
Name	The file name of the document and its extension (file type).
Size	The size of the file.
Upload Date	The date the file was uploaded into project or shell Documents.
Owner	Owner of the document, folder, or shortcut.
Title	The identifier given to the document upon uploading, which may differ from the file name.
Rev. No.	An optional, manually entered revision number (or version number) of the document.
Issue Date	An optional date and time stamp that the user can define at the time of upload or checking in a file, to identify the issue or publication date outside of Unifier.

Pub. No.	This system-generated number identifies the number of times the document has been published in the Document Manager. Upon initial upload, the Pub. No. is 1; if it is checked out, revised, and checked back in, it becomes 2, etc.
% Complete	The percent complete of the folder or document. This is a calculated field derived from the overall percent complete as entered for the documents contained within the folder.
Publication Date	Automatic date and time stamp when the document was published in Unifier.
Location	Shows the full folder path of the item within the project or shell Document node.

Menu bar

The following describes the functions available from the project or shell Documents or Company Documents menu bar.

File Menu

Menu Option	Description
New	Create new folder, file, empty document, shortcut, or business process record.
Open	Open folders, documents, or shortcuts.
Upload	Add files and folders to the Document Manager from your local drive.
Download	Download copies of documents and folders to your local drive.
Export	Export a document or folder structure and property information in a CSV file.
Import	Import a folder structure template from within Unifier, or folders, empty documents and properties in a CSV file.
Recycle Bin	View, restore, or delete the contents of the Recycle Bin.
Index Report	Easily run or print a report showing the contents of a selected folder and phase and category information in HTML, PDF, or CSV format.

Edit Menu

Menu Option	Description
Transfer Ownership	Transfer the ownership of a folder or document to another user.
Move	Move documents, folders, and shortcuts.
Copy	Copy documents, folders, and shortcuts.
Rename	Rename folders and shortcuts.
Delete	Delete documents, folders, and shortcuts.
Properties	View or edit folder or document properties.
Permissions	View or define permissions for other users to access folders, documents, and shortcuts.
Revise	Upload a revised document from your local system and replace the current version of the document in the Document Manager. The older version is accessed in the View Revisions window.
Check In	Check in documents that you have previously checked out. If the document was revised and checked back in, the Pub. No. is updated.
Check Out	Check out a document to edit, or add markups or comments.
Cancel Check Out	Cancel checkout of a document without saving any edits or comments.
Lock	Lock documents to prevent editing by other users.
Unlock	Unlock locked records.
Organize Folders	Move folders within the folder structure.
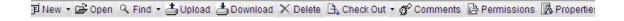
View Menu

Menu Option	Description
Comments	Add or view comments on documents and file attachments on documents.
References	Refers to reference files associated with a base drawing file (DWG or DGN format). A checkmark in this column indicates that all the reference files are resolved; an X indicates there is at least one missing reference file.
Linked BP Records	Display list of business process records to which a selected document is linked.
Revisions	Access previous revisions of a selected document.
Audit Log	View the audit log (history of actions) for folders, documents, and shortcuts

Find	• **Properties:** Search for documents, folders, or shortcuts by information that is part of their properties, e.g., name, owner, etc. Data that can be searched on can be customized by the project or shell Manager. • **Content:** Search by content, or keywords, within documents.
Filter By	Filter how documents are displayed in the log. Affects a selected folder and its subfolders. • **All:** Displays all contents of the selected folder. Subfolder contents are not displayed unless they are selected. • **Locked:** Displays locked documents in the selected folder and subfolders. • **Unlocked:** Displays contents of the selected folder, except for locked documents. • **Published Today:** Displays documents that have been published today to the selected folder and subfolders. • **Checkout Out By Me:** Displays documents in the selected folder and subfolders that are currently checked out by you.

Toolbar

You can perform the following functions from the toolbar. Click the down arrow next to a button to view the options.

Button	Action
New	• **Folder:** Creates new folder or subfolder in the selected folder. • **Document > File:** Uploads the file to the selected folder. • **Document > Empty Document:** Creates an empty document in the selected folder. • **Business Process:** Creates a new BP record with the selected documents attached.
Open	Opens the selected folder or document (document opens in selected viewer).
Find	• **Properties:** Search for documents, folders, or shortcuts by information that is part of their properties, e.g., name, owner, etc. • **Content:** Search by content, or keywords, within documents.
Upload	Uploads files and folders from your local machine into the Document Manager.
Download	Downloads files and folders to the local machine.
Delete	Deletes the selected file or folder (moves it to Recycle Bin).
Check Out	Allows you to check out documents for editing or markup. • **Check In:** Check in documents (with changes). This automatically updates the documents Pub. No. • **Cancel Check Out:** Cancel the check-out status without saving changes.
Comments	Opens the File Comments window for the selected document. Add or view comments, markups, or attach another file to a document.
Permissions	Configure user permissions for the selected document, folder or shortcut.
Properties	View or add properties to the selected document, folder, or shortcut.

Search for a document, folder, or shortcut

There are two ways to find items in project or shell Documents or Company Documents:

• **Search by Properties**: This searches on specific properties (metadata) of the document, empty document, folder, or shortcut being searched for. The default search options are name, owner, title, revision number (documents), and upload by (user who uploaded the item).

> **Note:** *This search option can be customized through uDesigner. If a designer has imported Document Managers attribute forms, the search criteria can also be customized. This means that the fields on which you can search may differ from the above list.*

- **Search by Content**: This allows you to search for a document by specific content, or keywords, within the document. This option works on most file types other than drawing files. You can search by single word or exact phrase in quotes (for example, "training document").

  The supported file types for content search are listed below:

  doc, pdf, txt, xls, htm, rtf, html, csv, xml, xsd, java, c, cpp, vm, bat, bak, css, log, sql, ncs, sh, properties, vpp, wtx, xhtml, xslt, ppt, mpp, vsd

The Find function works on the latest revisions of documents only. It does not search on older revisions.

To search for documents, folders, or shortcuts by properties

1   In the folder view, select the folder in which to perform the search. The search will be performed on the selected folder and its subfolders. To search all folders, select the **project or shell Documents** node.

2   Click the **Find** button and choose **Search By Properties**, or click the **View** menu and choose **Find > Search By Properties**. The upper portion of the log expands to display the Find fields.

3   Enter search criteria in one or more of the Find fields, for example, the full or partial name of a file. You can use the wildcard % when searching for names.

4   Click the **Search** button. The log will display the search results.

5   To search the contents of another folder, select it in the folder view. The search results will automatically display the search results of the new selected folder.

6   To close the Search fields, click the **X** in the upper right corner.

To search for documents by content

1   Select the folder in which to perform the search. The search will be performed on the selected folder and its subfolders. To search all folders, select the **project or shell Documents** or **Company Documents** node.

2   Click the **Find** button and choose **Search By Content**, or click the **View** menu and choose **Find > Search By Content**.

3   Enter one or more keywords to search for within the documents.

4   Click the **Search** button. The log will display the search results on the folder selected and its subfolders in the folder tree.

5   To search the contents of another folder, select it in the folder tree. The search will be automatically executed again when you select any other folder in the folder tree.

6   To close the Search fields, click the **X** in the upper right corner.

> ***Note:*** *Modifications to files, folders, or documents (such as uploading, renaming, moving, etc.) may not be reflected in the search results immediately as the index file associated with the content search is updated.*

Tip: For best results, use only alpha-numeric characters in your search criteria. If you are not receiving the search results you are expecting, try placing your criteria in quotes.

Display folders by project or shell phase

This is applicable to the project or shell level Document Manager only, as phase is not applicable at the company level.

A project or shell Documents folder can be associated with one or more project or shell phases, which will make it accessible only during specific phases of a project or shell. This helps insure that important, phase-specific documents are visible at the appropriate times during the life cycle of the project or shell.

For example, if a folder or subfolder is associated with the construction phase of a project or shell, then it will appear in the project or shell Documents folder view and log for the project or shell only when the project or shell is in that phase.

If a phase has not been designated on a folder or subfolder, it will display for all project or shell phases.

The folder's phase is designated in the Phase selection box in the folder's Properties window. The project or shell phase is maintained in the project or shell Properties window by a project or shell administrator.

You have the option to view folders for the current project or shell phase, or you can choose to view all folders regardless of project or shell phase.

To display folders by project or shell phase

1   Navigate to the Document Manager, project or shell Documents node.

2   At the top of the folders view, do one of the following:

   • To display folders for the current phase, be sure that **Current Phase** is selected on the **Phase** drop-down menu (this is the default selection). Folders and subfolders that have been associated with the current phase of your project or shell, as well as those with no specific phase designation, will be displayed. Those that have been associated with a different project or shell phase will not display.

   • To display folders for all project or shell phases, click the **Phase** drop-down menu and select **All Phases**. All folders, regardless of project or shell phase, will display.

View folder contents

To view folder contents
In the folders view, click a folder to select it. The contents of the folder appear in the project or shell or Company Documents log. If a folder has a plus sign (+), click it to reveal subfolders.

CREATING AND MANAGING FOLDERS

About folders in the Document Manager

If you have proper permissions, you can create any number of folders and subfolders to organize documents and shortcuts. Folders can be created in various ways:

- Manually create a folder.
- Upload folders from your local machine.
- Import folders from a CSV file.
- Create folders in a project or shell template (Administration Mode). When a new project or shell is created from the template, the folder structure will be copied.
- Import a folder structure from a folder structure template.

Note: You must have permission to create or modify folders to perform the following procedures.

About locked folder structures

The document administrator (the project or shell or company administrator or other designated user with full administrative permissions) has the ability to lock the first-level folder structure. First level refers to folders and documents directly under the root folder. It does not refer to the subfolders within the first-level folders.

Locking the first level folder structure prevents other users from adding, modifying, or deleting folders and documents on the first level, or changing the document or folder properties. Users can modify permissions on first-level folders and documents.

This ability allows the administrator to establish and maintain a consistent main folder structure within and across project or shells.

To check if the first-level folder structure is locked

1   Navigate to the project or shell or Company Documents folder. Click **Properties** and choose the **Options** tab.

2   Scroll to the bottom of the window. If the **Lock first level folder structure below project or shell Documents** checkbox is selected, the first-level folder structure is locked.

Create a folder

When you create a folder, you become its owner by default and have full read, write, and edit privileges. In order for other users to access the folder and its contents, you must grant permission. It is recommended that you understand the permissions settings before creating folders.

You can also easily create multiple folders under the same parent folder and with similar properties.

Note: It is possible for the first-level folders to be locked by a document administrator, which prevents folders directly under the project or shell or Company Documents node from being changed or added. This prevents the main folder structure from being altered. Subfolders can be added to existing folders.

To create a new folder in the project or shell or Company Documents node

1   Select the folder in which you want to create the new folder, or the project or shell or Company Documents root node.

2   Click the **New** button (or click **File > New > Folder**). The Create Folder window opens. The Create Folder window is identical to the Folder Properties window, which can be viewed for existing folders.

3   In the **General** tab, enter a name for the folder. The other fields are system-defined or optional.

4   The Options tab fields are optional.

5   Click **Add**. The new folder is created.

To create multiple folders in the same parent folder

1   In the Create Folder window, click the **Create Multiple** button. This allows you to create multiple folders with similar properties.

2   Add the information in the **General** and **Options** tabs for the first folder.

3   When the General and Options tabs are complete for the first folder, click the **Create** button. The first folder will be created and the Create Folder window will remain open.

4   Give a new name to the second folder and verify the other information in the General and Options tabs. (By default, the same as the first folder, but can be modified.) Click **Create** to create the second folder.

5   Continue to create folders as needed.

6   Close the Create Folder window when you are done creating folders.

Folder Properties window

The following section describes the default fields in the Folder Properties window (also called the Create Folders window). There are two tabs:

General: If your company has designed and imported a folder attributes form, it will be used for the General tab. The example below shows the default General tab. All property fields are data elements, and therefore are reportable in user-defined reports.

Options: This tab contains options for uploading and downloading folders and drawing reference files. The Options tab is not customizable in uDesigner.
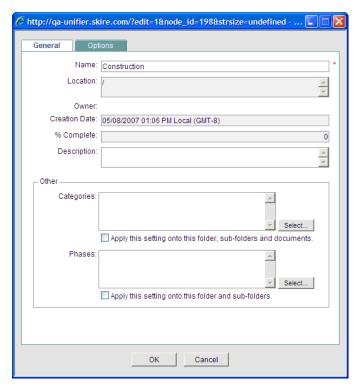
Figure 10-1 The Folder Properties window, General tab

In this field	Do this
Name	This always appears at the top and is mandatory. For the project or shell Documents or Company Documents root folder, this is not editable.
Location	The folder location within the project or shell Documents node. "/" indicates the project or shell Documents root folder.
Owner	The name of the folder creator or current owner. Click to view the user profile.
Creation Date	The date that the folder was created.
% Complete	This is a calculated field derived from the overall percent complete of all documents within the folder. The % Complete for documents is maintained manually in the Document Properties window.
Description	You can enter an optional description for the folder.
Categories (applicable to project-level Document Manager only)	Project administrators can group folders into customized categories. Category designations are not searchable using Find, but they are reportable in user-defined reports. This field is not present at the company level.

Phases (applicable to project or shell level Document Manager only)	In the project or shell level Document Manager, a folder can be associated with one or more project or shell phases, making it accessible only during those phases of the project or shell. This helps insure that important, phase-specific documents are visible at the appropriate times during the life cycle of the project or shell. Click the **Select** button and select one or more phases. **Caution**: The Phase setting controls the visibility of folders. For example, if the project or shell administrator sets the project or shell phase to conceptual design, then only those folders tagged with the phase conceptual design, as well as those without a phase tag, will be visible during that phase. If you do not specify a phase, the folder will display during all project or shell phases.
Apply these options to all subfolders and documents	For categories and phases. If you select this option for the current folder, then all new and existing subfolders and documents within the folder will be modified when the window is saved.
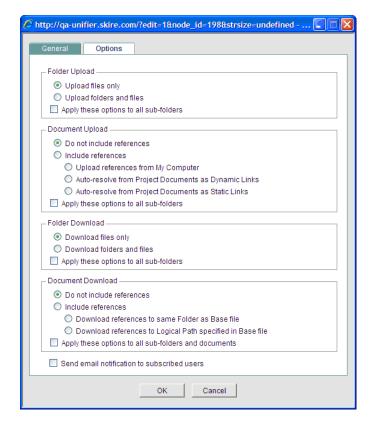
Figure 10-2 The Folder Properties window, Options tab

In this field	Do this
Folder Upload	
Upload files only	Default selection; when a folder is selected for upload, only the files within it are uploaded, not the folder itself.
Upload folders and files	Allows uploading of both files and folders.
Document Upload	

Do not include references	Applies to drawing reference files. If this option is selected, reference files will not be uploaded automatically with their base files.
Include references	Reference files will be uploaded automatically with their base files based on the option selected: • **Upload References from My Computer:** Searches for reference files on the local machine based on the path defined in the base file header. • **Auto-resolve from project or shell Documents as Dynamic Links:** Searches for reference files already present in project or shell documents and links dynamically. If the reference file is revised, the newer version is used. • **Auto-resolve from project or shell Documents as Static Links:** Searches for reference files already present in project or shell Documents and links statically. If the reference file is revised, the newer version is ignored.
Folder Download	
Download files only	Default selection; when a folder is selected for download, only the files within it are downloaded, not the folder itself.
Download folders and files	Allows downloading of both files and folders.
Document Download	
Do not include references	Do not download drawing reference files automatically with base files.
Include references	Reference files will be downloaded automatically with their base files based on the option selected: • **Download references to same folder as Base file** • **Download references to Logical Path specified in Base file:** As defined in the base file header information
Send email notification to subscribed users	Select this box if you want the owner to receive an e-mail notification whenever the folder properties are modified. If you select or deselect this box on a folder, the checkbox will update on all subfolders automatically. This option will not override users' e-mail subscription selections in user preferences. Users also have to have at least view permissions on the specific folder or document to get the notification.
Apply these options to all sub-folders (and documents")	This is unchecked by default. If this option is selected, the upload or download options will apply to all new and existing subfolders (and documents if specified) when the options are saved.
Lock folder structure for the first level below project or shell Documents	This option appears only for the root project or shell Documents folder. It disallows the addition, modification, or deletion of any first-level folder: folders that are directly under the project or shell Documents node. Subfolders can still be added to the first-level folders. The administrator can unlock the structure to make changes to first-level folders if necessary.

View or modify folder properties

You can view or modify (with proper permissions) the folder properties of existing folders. When you create or upload a folder, you become its owner, and have full access to the folder and its contents.

To view or modify folder properties

1 In the folders view or project or shell or Company Document log, select any folder or subfolder, or the project or shell or Company Documents root folder.

2 Click the **Properties** button. The Folder Properties window opens.

Modify folder permissions

When you create or upload a folder, you become its owner and have full access to the folder and its contents.

Setting permissions at the folder level allows you to grant other users access not only to the selected folder, but also (optionally) its contents as well, such as subfolders, shortcuts, and documents. You also have the option of setting individual permission settings to specific shortcuts and documents within the folder, as discussed in the documents and shortcuts sections.

Note: *You many want to add yourself to the permissions list. Though not necessary as long as you remain the owner, if you decide later to transfer ownership of the folder, you will no longer have owner permissions. However, you will retain the permissions, if any, that you specify in the permission window.*

Note: *The project or shell Documents root folder is selectable for modifying permissions.*

To modify folder permissions

1   Select the folder in the document log or folder tree and click the **Permissions** button. The Edit Permissions window opens.

If the **Inherit permissions from the parent folder** checkbox at the top of the window is selected, then the folder-level permissions will apply automatically and cannot be modified.

2   To modify the folder permissions, deselect **Inherit permissions from the parent folder**.

3   Do any of the following:

   • To add a new user, click **Add** and add users or groups to grant permission. Select the user from the list and grant or remove individual permissions (see below).

   • To remove a user's permissions, select the user from the list and click **Remove**.

   • To modify a user's permissions, select the user from the list and grant or remove individual permissions.

4   Select permissions to add to the user or group. The folder permissions apply to the folder and subfolders within it. Document permissions apply to the documents within the folder.

5   If you want these permissions to apply to the documents and folders within the selected folder, select the **Apply these permissions to documents and subfolders** checkbox.

If this is a subfolder, you can leave this deselected if you want the parent folder permissions to apply. If you select this box, these permissions will take precedent.

6   Click **OK**.
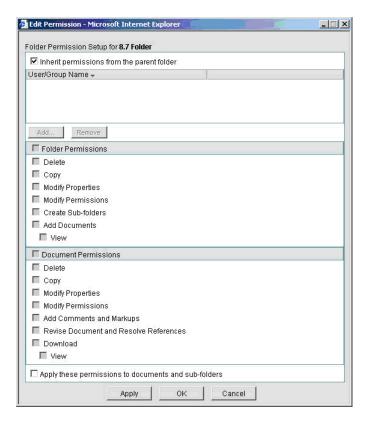
Figure 10-3 Edit folder permissions

Copy a folder

You can copy a folder from one location to another. When you copy a folder, you become the owner with ownership permissions of the copied folder and its contents. The owner of the original folder and other users with permissions to the original folder retain their permissions on the original and the copied folder. You can copy more than one folder at a time.

To copy a folder

1　Select one or more folders in the project or shell Documents log.

2　Click the **Edit** menu and choose **Copy**. The Copy Files/Folders window opens.

3　Select the target location from the folders shown.

4　Select the **Include Comments** checkbox if you want to copy any comments or markups that may be on documents within the copied folder.

5　Click **OK**. The folder and all contents (subfolders, documents, shortcuts) are copied to the target location.

Move a folder

If you are the owner of the folder (or otherwise have proper permissions), you can move a folder to a new location. When you move a folder from one location to another, all subfolders,

documents, and any comments or markups on the documents are moved to the new location. Original ownership and user permissions are maintained. You can move more than one folder at a time.

To move a folder

1   Select one or more folders in the project or shell Documents log.

2   Click the **Edit** menu and choose **Move**. The Move Files/Folders window opens.

3   Select the target location from the folders shown.

4   Click **OK**. The folder and its contents are moved to the target location.

Organize folders

If you have the permission settings, you can quickly move folders up and down the folder tree using the organize folders feature. This only reorganizes the folder order on the folder tree (left pane). The documents view (the right pane) always lists folders alphanumerically.

Note: Unless you have module-level organize permission, you will not be able to move first-level folders if the first-level structure is locked.

To organize folders

1   In project or shell Documents, click **Edit > Organize Folders**. The Organize Folders window opens, displaying the project or shell documents folder structure.

2   You can expand folders to display subfolders by clicking the **+** next to the folder name.

3   Select a folder and click **Move Up** or **Move Down** as needed. Any subfolders will move with the selected folder.

4   Click **OK**.

Rename a folder

To rename a folder

1   Select the folder in the project or shell Documents log.

2   Click the **Edit** menu and choose **Rename**. The Rename Folder window opens.

3   Enter the new folder name in the **To** field and click **OK**.

Delete a folder

When you delete a folder, it is moved to the Recycle Bin. Items in the Recycle Bin can be restored back to their original location or permanently deleted. See "The Recycle Bin" on page 530. You can delete more than one folder at a time.

Note: Documents attached to business processes cannot be deleted. Therefore, in order to delete a folder that contains a document that cannot be deleted, you must first move that document to a different location.

To delete a folder

1   Select one or more folders in the project or shell Documents log.

2   Click the **Edit** menu and choose **Delete**, or click the **Delete** button on the toolbar.

3   Click **Yes** to confirm. The folder and contents are moved to the Recycle Bin.

CREATING AND MANAGING DOCUMENTS

About documents in the project or shell or Company Documents node

A document refers to a file that is uploaded into Unifier and stored in the Document Manager. A document in the Document Manager can be thought of as a container of the file that was uploaded.

View and open documents

Documents can be stored in folders or directly in the root project or shell Documents or Company Documents node. The folders view displays folders and subfolders. The project or shell Documents log displays the contents of the selected folder, including subfolders, documents, and shortcuts.

Documents can be opened in two ways from within Unifier:

• **Native:** Documents are opened in their native applications; for example, Microsoft Word documents are opened in Microsoft Word. This option requires that users have the native application installed on their machine in order to view the document.

• **Unifier viewer:** Documents are displayed in a Cimmetry viewer, which can display virtually any type of file. Documents are opened in a read-only view that supports adding graphical markups and text comments.

The File Viewer option is set in the User Preferences window, Options tab. See Chapter 2, "Getting Started".

To view a document

1   Select a folder or subfolder (or the project or shell Documents root folder) in the folders view. The contents of the folder, including any documents, display in the project or shell Documents log.

2   In the log, select a document and click **Open** on the button bar, or double-click the document. The document opens in the Cimmetry viewer or native application, depending on the File Viewer option selected.

Create an empty document

Empty documents are used as placeholders for documents that have yet to be uploaded into Document Manager. For example, a project or shell manager might create an empty document in a folder and then send an action item to a team member to upload the file into it.

You can also import empty documents. See "Import and export folders, properties, and empty documents" on page 518.

Empty documents can be populated with files by revising them (replacing the empty document with the completed document. See "Revising Documents" on page 527.

To create an empty document

1   From the **File** menu, click **New > Empty Document**. The Create Document window opens.

2   Enter a name for the empty document. The other fields in the General tab and the Options tab are optional.

3   Click **Add**. The empty document is created.

Note: *To upload a file into the empty document, see "Uploading Files" on page 510.*

Document Properties window

Like the Folder Properties window, the fields in the General tab of the Document Properties window can be customized in uDesigner by designing and importing a custom attributes form at the company level (see the *Unifier Administration Guide*). This window opens when viewing document properties and when creating an empty document.

All properties fields are data elements, and therefore are reportable in user-defined reports. Text comments attached to documents are also reportable.

The following section describes the default fields in the Folder Properties window (also called the Create Folders window). There are two tabs:

General: If your company has designed and imported a document attributes form, it will be used for the General tab. The example below shows the default General tab. All properties fields are data elements, and therefore are reportable in user-defined reports.

Options: This tab controls revision behavior. The Options tab is not customizable in uDesigner.
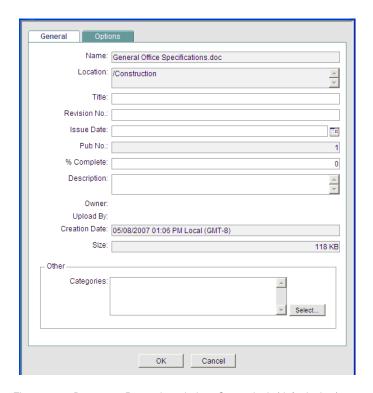
Figure 10-4 Document Properties window, General tab (default view)

In this field	Do this
Name	The file name with extension (for example, .doc or .xls).
Location	The location of the document within the Document Manager folder structure.
Title	A title given to the document, which can differ from the file name, and can be more descriptive than the file name.
Revision No.	Manually entered version number. This differs from the publication number (Pub. No.), which is Unifier's method of keeping track of saved revisions within the Document Manager.
Issue Date	This optional date and time stamp is also manually entered, referring to the original release date of this version of the document, and not the date the file was uploaded or checked into Unifier.
Publication No.	Number of times the file has been published within Unifier. Original upload is 1. If it is revised, the publication number becomes 2, and so on.
% Complete	Allows you to manually keep track of the progress of in-process documents. The percent values of all documents within a folder are averaged and rolled up to the Folder Properties window. The default value is 0%.
Description	You can enter an optional description for the document.
Owner	The user who uploads the file into Unifier becomes its owner by default. Ownership can be transferred to another user (permissions apply).
Upload By	The user who uploaded the file to the Document Manager.
Creation Date	System-generated date that the document was created. This may be the original file upload or creation of an empty document before the file was uploaded.
Size	File size, in kilobytes.
Categories	Categories are used to tag folders and documents with common keywords that are used to organize, categorize, and search for them. This is optional.

Figure 10-5 Document Properties window, Options tab

In this field	Do this
Revisions must have same file name	Checking this option will prevent the document from being revised unless the new version has the same file name as the original. When a file is dynamically linked as a reference file to a base drawing file, this checkbox is selected by default for the reference file and cannot be deselected.

View or modify document properties

You can view or modify (with proper permissions) the Document Properties of uploaded files and empty documents. You can also import properties values. See "Import and export folders, properties, and empty documents" on page 518.

To view or modify folder properties

1   Select the document in the project or shell Documents log.

2   Click the **Properties** button. The Document Properties window opens.

Modify document permissions

When you upload a document, or publish a document from unpublished documents, you become its owner and have full access to it. You can grant other users access to it.

If you have granted folder-level permission to other users and allowed the permission to apply to the contents of the folder, those permissions will apply to the documents that you add to it automatically. They will appear as selected in the document permissions window. However, you can modify these permissions per document if needed.

To modify document permissions

1   Select the folder in the document log or folder tree and click the **Permissions** button. The Edit Permissions window opens.

   If the **Inherit permissions from the parent folder** checkbox at the top of the window is selected, the folder-level permissions will apply automatically and cannot be modified.

2   To modify the folder permissions, deselect **Inherit permissions from the parent folder**.

3   Do any of the following:
   • To add a new user, click **Add** and add users or groups to grant permission. Select the user from the list and grant or remove individual permission.
   • To remove a user's permissions, select the user from the list and click **Remove**.
   • To modify a user's permissions, select the user from the list and grant or remove individual permissions.

4   Select the permissions settings for the document and click **OK**.

Figure 10-6 Edit document permissions

Copy a document

A document can be copied from one location to another, with the option to include any comments or markups associated with it. You can select and copy multiple documents or folders at once. If you copy a document owned by another user, you become the owner of the copy, and the original owner maintains original permissions on the original and copied versions.

Note: *You must select a destination folder that is different from the source folder. You cannot copy a document into the same location you are copying it from.*

To copy a document

1 Select the document in the project or shell Documents log.

2 On the **Edit** menu, click **Copy**. The Copy Files/Folders window opens.

3 Select the destination folder into which you want to place the document copy.

4 To copy with comments or markups attached to the document, select the **Include Comments/Markups** checkbox.

5 Click **OK**.
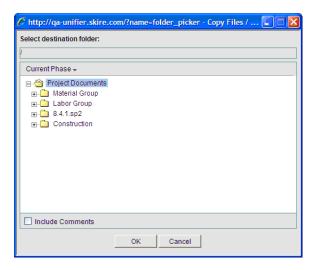
Figure 10-7 Copy Document window

Move a document

When a file is moved, any comments or markups are moved with it automatically. You can select and move multiple documents or folders at once.

To move a document

1   Select the document in the project or shell Documents log.

2   On the **Edit** menu, click **Move**. The Move Files/Folders window opens.

3   Select the target folder into which you want to move the document.

4   Click **OK**.

Rename a document

Documents cannot be renamed from within Unifier. You can change the title of a document through the Properties window, but not the file name.

Delete a document

When you delete a document, it is moved to the Recycle Bin. Items in the Recycle Bin can be restored to their original location or permanently deleted. You can select and delete more than one document at once.

Note: Use caution when deleting drawing base or reference files. Deleting a linked reference file will cause the file to be marked as missing on the corresponding base drawing file.

*Note: A document that is attached to a business process record is linked to it and cannot be deleted from the Document Manager. The document will show a linked records icon next to the document in the BP column of the document log. However, if the latest version of the document is not linked to a BP, the icon will not display in the log. You can select the document and click **View > Revisions** to check if an older revision has linked records. In addition, a document may also*

> *contain links to BPs that are still in draft, and which will not display as a link to the document until the BP record is sent.*

Tip: If you need to remove a document that cannot be deleted, move it from its original location into another folder with limited user access.

To delete a document

1   Select the document in the project or shell Documents log.

2   Click the **Edit** menu and choose **Delete**, or click the **Delete** button.

3   Click **Yes** to confirm. The document is moved to the Recycle Bin.

CREATING AND MANAGING SHORTCUTS

About shortcuts

You may create convenient shortcuts to frequently used documents or folders.

Document and folder permissions always take precedence. That is, you must have the proper permissions to view, open, or modify the document or folder to which the shortcut is pointing.

Use shortcuts

Shortcuts are a convenient way to quickly navigate to important or frequently used documents and folders. They can be used to quickly access and view a document or folder. Shortcuts cannot be downloaded.

Note: If a folder or document is moved, any shortcuts that have been created for it will point to the new location. However, if you rename or delete a document or folder, any associated shortcuts will not be automatically modified. Users who try to use a shortcut to a document or folder that has been renamed or deleted will see an error message.

To use a shortcut
Do one of the following:

- Select the shortcut in the project or shell Documents log and click **Open**.
- Double-click the shortcut.

If the shortcut is to a folder, the folder opens in the folders view, displaying the contents. If the shortcut is to a document, the document opens in the viewer.

Create a shortcut

You may create a shortcut to a document or a folder. Clicking a shortcut to a folder displays the folder contents. Clicking a shortcut to a document opens the document for viewing.

Tip: For ease of use, create shortcuts to commonly used documents and folders and store them in a central folder.

To create a shortcut

1   In the folders view, navigate to the folder in which you want the shortcut to reside.

2   Select **New > Shortcut**. The Create Shortcut window opens.

3   In the Source field, click the **Browse** button. The Select Files window opens.

4   Browse to the document or folder for which you want to create the shortcut.

If you have left the Name field blank, the shortcut name defaults to "Shortcut to document/folder name" and can be changed.

5   Click **OK**. The shortcut is created in the selected folder.

Shortcut Properties window

The Shortcut Properties window consists of the name of the shortcut as it appears in the project or shell Documents log and the path of the document or folder to which it points. It is not customizable in uDesigner. This window is also called the Create Shortcut window.
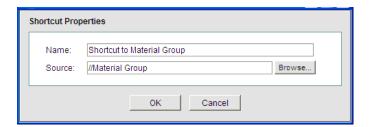
Figure 10-8 Shortcut Properties window

In this field	Do this
Name	The name of the shortcut, as displayed in the log.
Source	The path of the file or folder to which the shortcut points. You can click the **Browse** button to change the source.

View or modify shortcut properties

To view or modify shortcut properties

1   In the project or shell Documents log, select the shortcut.

2   Click the **Properties** button. The Shortcut Properties window opens.

Modify shortcut permissions

When you create a shortcut, you become its owner and have full access to it. You can grant other users access to it. A shortcut will have limited permission settings related to the document or folder to which it points.

If you have granted folder-level permission to other users and allowed the permission to apply to the contents of the folder, those permissions will apply to the documents that you add to it automatically. However, you can modify these permissions per document if needed.

To modify shortcut permissions

1   Select the document in the document log and click the **Permissions** button. The Edit Permissions window opens.

    If the **Inherit permissions from the parent folder** checkbox at the top of the window is selected, the folder-level permissions will apply automatically and cannot be modified.

2   To modify the permissions to the shortcut, deselect **Inherit permissions from the parent folder**.

3   Do any of the following:

    • To add a new user, click **Add** and add users or groups to grant permission. Select the user from the list and grant or remove individual permission.

    • To remove a user's permissions, select the user from the list and click **Remove**.

    • To modify a user's permissions, select the user from the list and grant or remove individual permissions.

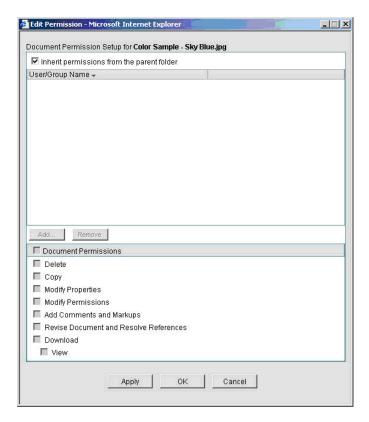4   Select the permissions settings for the document and click **OK**.
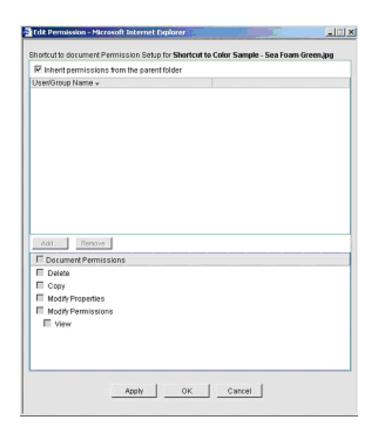
Figure 10-9 Edit shortcut permissions

Copy a shortcut

To copy a shortcut

1   Select the shortcut in the project or shell Documents log.

2   On the **Edit** menu, click **Copy**. The Browse to Copy window opens.

3   If the target folder is phase-specific (only appears during specified project or shell phases),
    click the **Current Phase** drop-down menu and choose the project or shell phase.

4   Select the target folder into which you want to place the shortcut copy.

5   Click **OK**.

Move a shortcut

To move a shortcut

1   Select the shortcut in the project or shell Documents log.

2   On the **Edit** menu, click **Move**. The Move Files/Folders window opens.

3   Select the target folder into which you want to move the shortcut.

4   Click **OK**.

Rename a shortcut

To rename a shortcut

1   Select the shortcut in the project or shell Document log.

2   From the **Edit** menu, click **Rename**.

3   Enter the new name and click **OK**.

Delete a shortcut

When you delete a shortcut, it is moved to the Recycle Bin. Items in the Recycle Bin can be
restored back to their original location or permanently deleted. Deleting a shortcut does not
delete the folder or document to which it points.

To delete a shortcut

1   Select the shortcut in the project or shell Document log.

2   From the **Edit** menu, click **Delete**, or click the **Delete** button.

3   Click **Yes** to confirm. The shortcut is moved to the Recycle Bin.

Change the shortcut source

You can change the file or folder to which the shortcut points by choosing a different source in
the Shortcut Properties window.

To change a shortcut source

1   Select the shortcut in the project or shell Documents log.

2   Click the **Properties** button. The Shortcut Properties window opens.

3   If you want to rename the shortcut automatically with the name of the new source document or folder, delete the name in the **Name** field.

4   In the **Source** field, click the **Browse** button and browse to the new source document or folder.

UPLOADING FILES

About uploading files

You can upload files directly from your local system into project or shell or company documents. The method for uploading files is based on the File Transfer option you chose in your user preferences: Basic (HTML-based), Intermediate (Sun JRE-based), or Advanced (Sun JRE plus the Unifier File Transfer Application).

The general upload procedures are the same whether you are uploading files to the Document Manager or attaching files from your local system to a business process record, cost sheet cell, etc.

Tip: You can modify your File Transfer selection at any time. You must refresh the project or shell Documents node for the change to take affect. To do this, click the project or shell Documents node in the Navigator.

Note: The file size for file uploads must be more than 0 bytes and less than 2 GB. Unifier cannot upload empty files from a local computer using any of the upload methods.

Upload files using the basic (HTML) file transfer method

The HTML method of uploading files into the Document Manager is the most basic method. It has the advantage of allowing you to transfer files to and from the Document Manager without having to install a third-party applet. It allows single-file selection for uploads and downloads, and some drawing reference file handling. It does not support uploading or downloading folders, shortcuts, or empty documents.

To upload files using the basic (HTML) file transfer method

1   In the project or shell or Company Documents node, folders view, select the destination (target) folder into which you want to upload the files.

2   Click the **Upload** button or select **File > Upload**. The Upload Files and Folders window opens.

3   Click the **Browse** button and select the file to upload.

4   You can add some properties information at this time in the **File Properties** box: document title, revision number, and issue date. This information is optional. This information can also be added or imported at a later time.

5   To add another file to upload, click **Add Row** and select the next file to upload. If you want to remove a file from the list, select the row and click **Remove**.

6 For more options, click the **Advanced Options** button at the bottom of the window. The File Upload window expands to reveal additional options for handling drawing and reference files and files of the same name.

7 Click **OK** to upload the files into the selected destination folder. A progress indicator will display the transfer rate and progress of the upload.

8 When the upload is complete, the completion summary will display. The time it takes to upload depends upon the number and size of the files. If any files failed to upload, for example, duplicate file names, they will be listed on the summary. Click **Close** to close the window.

> **Note:** *If you have uploaded drawing and reference files marked as missing, see "Resolving Missing Reference Files (Reference Manager)" on page 515.*

Upload files using the intermediate (Sun JRE) file transfer method

In addition to basic functionality, this option supports the selection of multiple files and folders for uploading and downloading. It will resolve reference file relationships in DWG and DGN drawing files. This process takes place on the server (that is, reference files should already be uploaded to Unifier or be part of the current upload process.

The procedure for uploading files using this method is the same as for the advanced method. See "Choose a file transfer option" on page 17 for details on the JRE version and download.

> **Note:** *If you have uploaded drawing and reference files marked as missing, see "Resolving Missing Reference Files (Reference Manager)" on page 515.*

Upload files and folders using the advanced file transfer method

This method uses Sun JRE in addition to the Unifier File Transfer Application to provide the greatest flexibility and scalability for uploading and downloading files. This option supports drag-and-drop uploading and downloading of multiple files and folders. Its advanced functionality for managing reference file relationships in AutoCAD® drawings makes it easier for users to locate, upload, revise, and download reference files in a predictable manner. The file transfer process runs locally on your machine and will search for and retrieve drawing files from your system. You can choose to upload a drawing base file only, or base file and references at the same time. It allows association of base files to reference files already stored in the Document Manager. See "Choose a file transfer option" on page 17 for details on the JRE version and download.

To upload files or folders (intermediate and advanced)

1 In the project or shell Documents or Company Documents node, folders view, select the destination (target) folder into which you want to upload the files.

2 Click the **Upload** button or select **File > Upload**. The Upload Files and Folders window opens.

3 Select the files to upload by doing one of the following:

- Open Windows Explorer. Select the files or folders that you want to upload and drag and drop them into the Upload window (holding down your mouse button, drag them into the Upload window, then release the mouse button). Repeat for any additional files or folders to upload.

- In the Upload window, click the **Add** button. Browse to and select the files or folders you want to upload. Click **Open**. Repeat for any additional files or folders to upload.

To select multiple files, hold down the Ctrl or Shift key on your keyboard and then click each file that you want to select.

4   For more options, click the **Advanced Options** button at the bottom of the window. The File Upload window expands to reveal additional options for handling drawing and reference files and files of the same name.

5   Click the **Upload** button.

6   (Optional) Resolve missing reference files.

If you included drawing files with reference files, and you are uploading reference files from your system, the Review References window will open. If you are using the Advanced option, the system will look for reference files on your system. If you are using the Intermediate option, the resolve process takes place on the server, so the system will expect the reference files to have been uploaded already or are part of the current upload process.

To review and select reference files, you can:

e   Click the **View Mode** drop-down menu and choose to view the drawing and reference files in a reference tree (displays the folder structure) or flat list (lists drawing and reference files in a flat list with path). All columns are sortable. By default, the sort will be on the link status to show all missing files at the top of the list.

f   Review the summary portion of the window, which shows the total number of reference files to be uploaded, and if any are missing (system cannot locate them).

g   To manually locate and resolve missing reference files, select a file marked missing and click the **Resolve Missing** button. Browse to the location of the missing reference file. The reference file must be the same name as shown in the window (from the information in the drawing base file). You cannot choose a file with a different file name. Resolving a missing file will automatically resolve other missing reference files that have the same name and logical source path, so you do not need to resolve the same reference file on multiple base files.

h   If the wrong reference has been linked, select one or more files and click the **Unresolve** button to prevent uploading the reference. The file will remain on the list and be flagged as missing. If the file had other child references, the children will be removed.

Note: You can also skip this step now and resolve the missing reference files at a later time.

7   Click **Next** when you are ready to upload the files.

The files will begin uploading. As the files upload, the progress bar shows the progress. The upload speed is dependent upon your system and connection and can take several minutes. When the upload is complete, the status and detailed log sections will display

8   Review the log carefully. It will display the list of successfully uploaded files and display any errors in uploading, for example, if you try to upload two files or two folders with the same name; if you have duplicate files or folders, you will need to remove one before continuing; or if a file or folder could not be accessed on your local system for some reason.

9   You can save a copy of the log as a text file for later review. Click the **Save to Log File** button. Navigate to the location to save the text file.

10 Close the window.
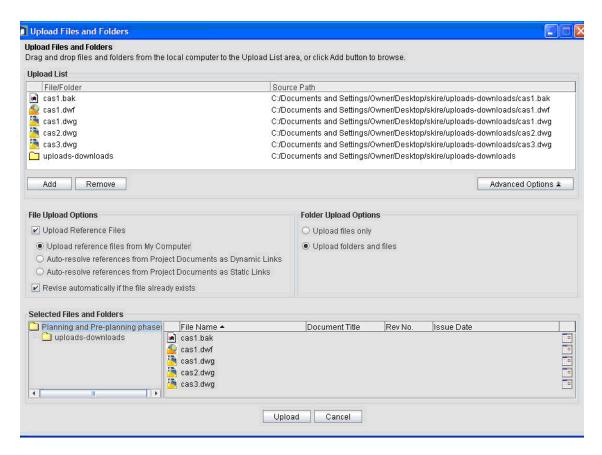
Figure 10-10 Advanced upload window

Advanced file upload options

Click **Advanced Options** on the upload window to reveal additional upload options.

Figure 10-11 Advanced options

File Upload Options	Description
Upload Reference Files	Select this checkbox if you are uploading drawing files (DWG or DGN) that have associated reference files. The Upload Reference Files options are: • **Upload reference files from my computer**: The system locates the reference files on your local system based on the information in the base file header. • **Auto-resolve references from project or shell Documents as Dynamic Links**: The system attempts to locate the reference file within project or shell documents based on the information in the header. As reference files are revised, the new revisions are linked automatically to the base file. • **Auto-resolve references from project or shell Documents as Status Links**: The system attempts to locate the reference file within project or shell documents based on the information in the header. Even if reference files are revised, the base file continues to link to the originally linked version of the reference files.
Revise automatically if the file already exists	If you select this checkbox and upload a file into a folder that already contains a document in it with the same file name, the document will be automatically revised with the newly uploaded version. If you do not select this checkbox, you will not be able to upload a file with the same name. This is not applicable to uploading folders containing files with the same name as existing documents. Files in this case will be ignored and cannot be uploaded.
Folder Upload Options	These options are only applicable if you are using the Advanced File Transfer option.
Upload files only	If you select folders for uploading, only the files within the folders will be uploaded in a flat list.
Upload folders and files	Selected folders and their contents will be uploaded. If the folders do not already exist in the Document Manager, they will be created.
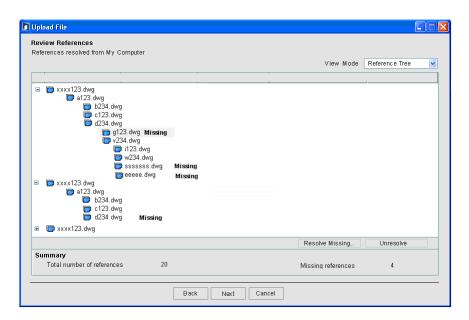
Figure 10-12 Review References window (reference tree view)

About uploading drawing and reference files

The following drawing file types are supported: DWG and DGN.

There are three ways to manage uploading of drawing files with associated reference files:

- The base file and reference files can be bundled (similar to a zip file). The base file and reference files remain together.

- The base file can be dynamically linked to the reference files, meaning that the base file always links to the latest version of each reference file. If a reference file is revised, the revised version will be linked to the base file.

- The base file can be statically linked to the reference files, which means the base file always points to a particular version of the reference file, regardless of whether it is the latest version.

For example, you may want to keep the links dynamic as revisions are made to a base file, and then change the links to static once the drawing is finalized. Even if the reference file is revised, the base file will continue to point to the statically linked version.

Note: *Links can be switched between dynamic and static at any time.*

RESOLVING MISSING REFERENCE FILES (REFERENCE MANAGER)

About auto-resolving reference files

Base files store the reference file paths in the header. During the auto-resolve process, Unifier reads the path in the header and then looks for the reference files based on this path. If the reference file path cannot be read, or if the reference files cannot be found in the path specified by the header, the references are flagged as missing.

Note: *Nested reference files are not supported. For example, a base file references a reference file, which in turn references another reference file (that is, the first reference file is a base file for the second). Unifier does not try to resolve missing nested reference files.*

You can resolve missing reference files during or after uploading into Unifier. You can resolve missing references within the Document Manager in several ways: manually upload a missing file from your computer; link to a reference file that is already in project or shell or company documents; or let Unifier attempt to auto-resolve it by searching for the missing reference.

Note: *The auto-resolve process will search for the missing attachment in the Unifier folder path as defined in the base file header and in the same folder as the base file.*

View missing and attached reference files

To view missing and attached reference files

1   In the document log, select a drawing file that has reference files. The drawing file will have a checkmark or an X in the Ref column of the log if there are associated references.

2   Click the **View** menu and choose **References**. The Reference Manager window opens, displaying references files:

- **Missing:** Reference files could not be found. They can be auto-resolved or resolved manually.

- **Private:** Reference files are bundled with the drawing file, not linked.

- **Static link:** Links to a particular version of an existing reference file within the Document Manager. Static links can only be created to the latest document version. If the reference

file is then revised, the link will point to the original version. Once linked, files cannot be revised with a different file name.

- **Dynamic link:** Links to an existing reference file within the Document Manager. If the file is revised, the link is refreshed and points to the newer version. Once linked, files cannot be revised with a different file name.
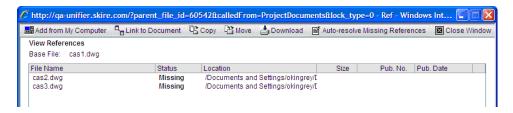
Figure 10-13 Reference Manager window

Manually resolve reference files

To resolve a missing reference file by uploading from your computer

1 In the Reference Manager window, select the missing reference file.

2 Click the **Add from My Computer** button. The File Upload window opens.

3 Browse to the file and click **OK**.

To resolve a missing reference file by linking to an existing file

1 In the Reference Manager window, select the missing reference file.

2 Click **Link To Document**. The Link to Document window opens.

3 Browse to the reference file to link to.

4 Select one of the following options:

- **Static link:** Links to a particular version of an existing reference file within the Document Manager. Static links can only be created to the latest document version. If the reference file is then revised, the link will point to the original version. Once linked, files cannot be revised with a different file name.
- **Dynamic link:** Links to an existing reference file within the Document Manager. If the file is revised, the link is refreshed and points to the newer version. Once linked, files cannot be revised with a different file name.
- **Local copy of the Unifier document:** Makes a copy of the existing reference file into the current folder and is not linked directly to the original version.

5 Click **OK** to save and close the Link to Document window.

Auto-resolve missing reference files

To auto-resolve missing reference files

1 In the Reference Manager window, select the missing reference file.

2 Click the **Auto-resolve Missing References** button.

3 Select **Static Link** or **Dynamic Link.** (See "To resolve a missing reference file by linking to an existing file" on page 516.)

4 Click **OK**. Unifier will search for the missing reference file based on information in the header of the base file. If the missing file is found, it is listed in the Auto-resolve window.

Copy or move reference files

If you need to copy or move reference files, it is recommended that you do so through the Reference Manager in order to maintain proper links between drawing and reference files.

To copy a reference file

1 In the document log, select a drawing file that has reference files. The drawing file will have a checkmark or an X in the Ref column of the log if there are associated references.

2 Click the **View** menu and choose **References**. The Reference Manager window opens.

3 Select the reference to copy and click the **Copy** button. The Copy Reference window opens.

4 Browse to the target folder within project or shell Documents.

5 Click **OK**. A reference will be copied to the target folder.

To move a reference file

1 In the Reference Manager window, select the reference to move and click the **Move** button. The Move Reference window opens.

2 Browse to the target folder.

3 Choose one of the options in the lower portion of the window. The reference file will maintain a link to the drawing file based on the option you choose:

  • **Create reference as dynamic link:** If the reference is revised, the link is refreshed and points to the newer version.
  • **Create reference as static link:** If the reference is revised, the link points to the original version.

4 Click **OK**. The reference file is moved to the target folder.

IMPORTING AND EXPORTING IN DOCUMENT MANAGER

Import a folder structure template

If a folder structure template has been created in the Administration Mode standards and libraries, you can import it into your project or shell document manager to quickly create a pre-

designed structure of folders and subfolders. You can import the folder structure template into the root project or shell Documents or Company Documents node or into any subfolder.

To import a folder structure template

1   In the project or shell or Company Documents node, navigate to the target folder (or the project or shell Documents root node) into which you want to import the new folder structure.

2   Click the **File** menu and choose **Import > Folder Structure Template**. The Select Folder Template window opens.

3   Select a template from the drop-down list.

4   You can preview the template structure by clicking the **Preview** button.

5   When you are ready to import, click **Import**. The folders and subfolders defined in the template are created within the target folder you selected.

Import and export folders, properties, and empty documents

You can import a folder structure and folder metadata (properties) from a CSV file. This procedure also allows the import of empty documents into the structure.

Step 1: Export structure and properties to a CSV file. Exporting the existing structure and properties creates the CSV structure (rows and columns). The CSV template will contain a list of documents and folders with their full paths and all attributes displayed on the General tab of folder and document properties (either default or uDesigner created).

Documents and folder rows are identified by the first column (type). The location of the folder or document is identified in the second column. The order in which the columns appear is the same as they appear in the folder and document properties forms.

Step 2: Modify the CSV file. Add new folders, folder, document properties, or empty documents to the CSV files, being careful not to change the structure. Only the columns that are modifiable in project or shell documents can be modified in the CSV file. Read-only fields cannot be modified by importing. Folder and document names are case sensitive.

Note: As of the date of publication, there is a known issue with Microsoft Excel CSV files with 15 or more rows. See the procedure below for details.

Step 3: Import the modified CSV file. The imported file can include new folders and documents (empty documents), as well as modified or additional properties to existing folders and documents. You can upload files into empty documents later by using Revise.

To export structure and properties to a CSV file

1   Do one of the following:
    • Select the **project or shell Documents** node to create an export CSV of the entire Document Manager.
    • Select specific folders or documents to export.

2   Click **File > Export > Structure and Properties**. Click **Yes** to confirm.

3   Save the CSV file to your local system.

To modify the import file

1   Open the CSV file in Microsoft Excel or a compatible application.

2   You can add new folders or documents in rows (will be added as empty documents) as needed. You can also add property information to existing folders and documents.

3   Save the file.

   Caution: As of the date of publication, there is a known issue in the way that Microsoft Excel handles CSV files with 15 or more rows. In CSV files, columns are separated with commas. However, when the CSV template is opened with Excel, if one or more columns toward the end are empty, Excel will drop the additional commas from the 15th row onward, resulting in an error when you try to import the file. You can work around this in one of two ways:

   • Add your data to the CSV file in Excel and save the file. Then reopen the file in a text editor such as Notepad, find the rows that have the missing commas, and add the additional commas to these rows.

   • Use the text editor instead of Excel to modify column values in the CSV file.

To import a CSV file into the Document Manager

1   In project or shell Documents, select the folder into which to import the structure or properties.

2   Click the **File** menu and choose **Structure and Properties**. The File Upload window opens.

3   Browse for the CSV file and click **OK**. Click **Yes** to confirm.

4   At the File Download window, click **Save**, browse to a destination folder and click **Save**.

DOWNLOADING DOCUMENTS AND FOLDERS

Download documents and folders

You can download copies of documents from the Document Manager to your local or network drive.

Note: *The file size for file downloads must be more than 0 bytes and less than 2 GB.*

As with uploading documents and folders, the procedure will depend on the File Transfer option you have chosen. By default, the latest version of a document will be downloaded.

Shortcuts cannot be downloaded.

Note: *If the download window (Java console applet) is still open on your machine, you may not be able to delete, move, or modify the downloaded file as it will appear to be in use. If this is the case, close the applet window.*

To download a document (Basic file transfer option)

1   Select the document to be downloaded. You can choose only one document at a time.Shortcuts, folders, and empty documents cannot be downloaded.

2   From the **File** menu, click **Download**, or click the **Download** button.

3   If the document is a drawing file with reference files, the Reference window opens, listing all drawing and reference files. Click the **Download** button next to one of the files to download. The File Download window opens.

4   Click the **Save** button. The Save As window opens.

5   Browse to the location where you want to download the file and click **Save**.

6   If you are downloading drawing and reference files, repeat for each file.

To download a file or folder (Intermediate and Advanced file transfer option)

1   Select one or more documents or folders in the documents log. Shortcuts and empty documents cannot be downloaded.

2   From the **File** menu, click **Download**, or click the **Download** button. The Download Files and Folders window opens.

3   Browse to the location where you want to download the files.

4   Choose document download options:

- If you are downloading a drawing file with references, you can download the reference files. Select the **Download Reference Files** checkbox.
- Choose **Download to the same folder as the base file** or **Download to the logical CAD path** (downloads to the folder structure as determined in the base file header).

5   Choose the folder download option:

- **Download files only:** Ignores any folder structure.
- **Download folders and files:** Downloads the files in the selected folder structure, creating new folders if necessary.

6   Click **Save** to begin download.
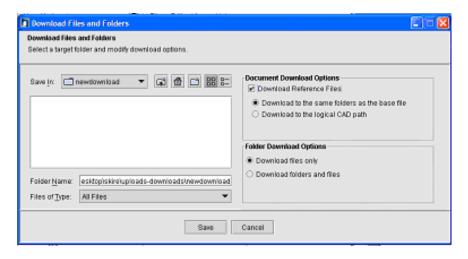
Figure 10-14 Download Files and Folders window

ADDING AND VIEWING GRAPHIC MARKUPS AND COMMENTS

About adding comments and markups to a document

You can add text comments or graphical markups to a document in project or shell Documents. You can even add a file attachment directly to the comment, for example, supporting documentation.

Comments and markups can be added to the latest version of a document only. You can view but not add or modify comments or markups made to previous versions.

Text comments are like notes that accompany the document but do not become part of it.

Markups can be thought of as an invisible layer, like a sheet of acetate that can be laid over the document. If multiple users create markups, each markup is on a separate sheet and can be viewed together, one at a time, or not at all. Markups are always associated with a text comment.

Text comments and graphic markups can be copied between business process records and the Document Manager, including:

• Comments added to documents in the Document Manager
• General comments added to business process records
• Comments added to file attachments on non-document-type BP records
• Comments added to file attachments (line item content) of document-type BP records
• Markups on file attachments that have been added to comments

Add a comment to a document in the Document Manager

To add comments to a document

1   Open a folder and select a document in the project or shell Documents log.

2   Click the **Comments** button. The File Comments window opens.

3   Add a text comment in the **Text Comments** box. You may click the **Spelling** button to run the spell check on your comment.

   Note: *You also have the option of adding graphic markups and attaching a file to the comment. See the following sections for details. You must add some text in order to save the View Comments window, even if you are adding graphical markups or attaching a file.*

4   Click **OK** to save your changes and exit the File Comments window.

   Note: *Until you click **OK** in the File Comments window, the comments, including any attachments and markups, are still in Draft mode. At this time, you can add or edit comments or markups to any file attachments, or add or remove file attachments from the comment.*
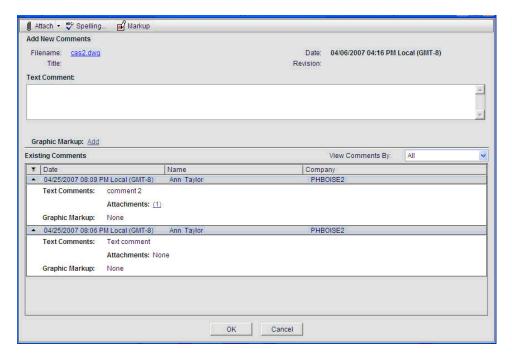
Figure 10-15 File Comments window

Add a graphic markup to a document in the Document Manager

Graphic markups are added through the comments function. These are stored with the document (e.g., a drawing) in the attached comment, but do not become part of the document itself.

To add a graphic markup to a Document Manager document

1   In the project or shell Documents log, select the document to markup.

2   Click the **Comments** button. The File Comments window opens.

3   Click the **Markup** button. You can also click the Graphic Markup link, which displays as Add if there are no markups on the document, or View if there are existing markups associated with this comment.

The Cimmetry AutoVue Professional viewer window opens displaying the document content. The window opens initially in view mode, which allows you to view and print the document only.

4   In the viewer window, click the **New Markup** tool or **File > New Markup**.

If there are existing markups, the Markup Files window opens. Each saved markup session is listed in the window. Select the checkbox by the markups to view and click **OK**.

The viewer switches to markup mode and the markup tools become available.

5   Add graphic markups to the document as necessary, using the tools on the horizontal toolbar.

> **Note:** *Each markup is a separate entity. The navigation pane on the left shows the Bookmarks tab and Markup Tree tab. The Markup Tree tab shows the markups. Click an entity to select it and delete, modify, etc.*

6 Click the **Save** button or **File > Save** to save your markups. Enter a name for the markup and click **OK**.

> **Note:** *Markups are saved as a single layer and are no longer editable once you close the window. Each markup is listed by name in the Markup Tree tab (in the viewer window) as a separate layer. To add another markup layer, click the **New** button.*

7 When you have completed your markups, close the viewer window to return to the File Comments window.

> **Note:** *At this point, the comment is still in Draft mode. You can add additional markups or file attachments if desired. You must enter some text in the Text Comment box in order to save.*

8 Click **OK** to save and exit the File Comments window.

Attach files to a comment

If you want to provide additional information regarding a comment or markup, you can attach a file to the comment. The file attachment is associated with a specific comment. If you attach a file, you must also enter text in the Text Comments window.

You can add graphical markups to files that you attach to a comment, as long as it is in Draft mode. This means that you can add the markups to the attachment as long as the comment has not yet been saved, and the file attachments are accessible from the Add New Comments portion of the View Comments window.

To attach files to a comment

1 Open a folder and select a document in the project or shell Documents log.

2 Click the **Comments** button. The View Comments window opens.

3 Add a comment.

4 Click the **Attach** button and choose one of the following:
- **My Computer** to attach the file from your local system. The procedure is the same as for uploading files to the Document Manager and depends on your File Transfer option.
- **Unifier Folder** to attach documents from the Document Manager. The window opens, displaying the project or shell Documents files and folders. Select the files and folders to attach and click **OK**. Folders are not attached. The contents of selected folders are attached in a flat list. Documents with duplicate files names will not attach.

5 When you are done attaching files, click **OK** to save the comment with the attachment. Once you save the comment with file attachments and markups, it cannot be modified.

> **Note:** *Until you click **OK** in the View Comments window, the comment, including any attachments and markups, are still in Draft mode. At this time, you can add or edit comments or markups to any file attachments, or add or remove file attachments from the comment. You must add text in the Text Comments area to save the View Comments window, even if you are adding markups or attaching a file.*

To remove a file attached to a comment

1	In the Add New Comments portion of the View Comments window, click the link next to **Attachments**. The Attachments window opens.

2	Select the file to be removed and click **Remove**.

To mark up a file attached to a comment

1	In the Add New Comments portion of the View Comments window, click the link next to **Attachments**. The Attachments window opens.

2	Select the file and click **Markup**. Follow the procedures for marking up a document.
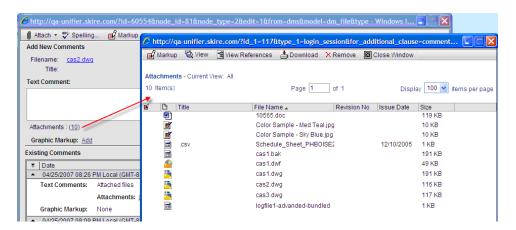
Figure 10-16 View comment attachments

View comments, markups, and file attachments on comments

Documents with comments or markups are displayed in the documents log with an icon in the Comments column.

To view text comments

1	Select the file with the **Comments** icon next to it.

2	Click the **Comments** button. The View Comments window opens.

Any previously added comments, attachments, and graphical markups are listed in the Existing Comments (lower) portion of the View Comments window. As you add new comments, markups, or attachments, they are displayed in the Add New Comments (upper) portion of the window.

Text comments are displayed in their entirety.
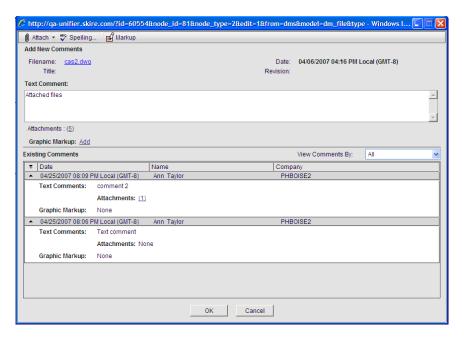
Figure 10-17 View comments

To view markups per comment on a Document Manager document

1 In the project or shell Documents log, select the document to view.

2 Click the **Comments** button. The File Comments window opens.

3 Click the **Markup** button. The Cimmetry AutoVue Professional viewer window opens displaying the document content. The window opens initially in view mode.
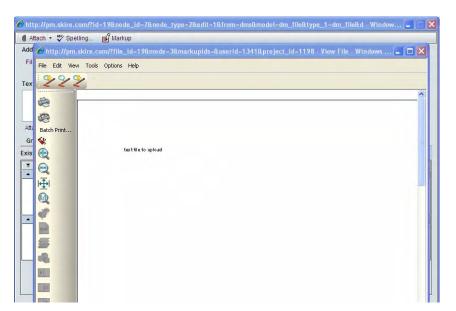
Figure 10-18 Cimmetry AutoVue viewer in view mode

4 Click the **New Markup** button or select **File > New Markup** to switch from view to markup mode, and choose which existing markups to view.
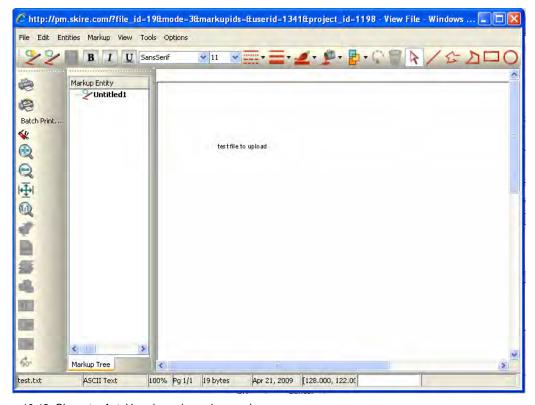
Figure 10-19 Cimmetry AutoVue viewer in markup mode

To view or download files attached to a comment

1 In the View Comments window, if there are file attachments to an existing comment, the number of file attachments will display as a link. Click the link next to **Attachments**. The Attachments window opens listing the attached files.

2 You can do the following:

- To view any graphical markups made on the attached file, select the file and click the **View Markup** button.

- To view the file attachment, select it and click the **View** button. The file will open in the native or Unifier viewer, depending on your File Viewer option in your user preferences.

- If any of the attached files is a drawing file, select it and click the **View References** button to view the associated reference files.

- To download a file attachment, select it and click the **Download** button. Follow the procedure for downloading files from the Document Manager.

3 Close the window.
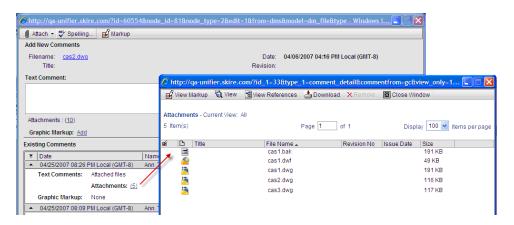
Figure 10-20 View attachments to comments

REVISING DOCUMENTS

Revise documents

To revise a document, you replace the current version with a new one that you upload from your local machine. The new file does not necessarily have to have the same file name as the original. This is also how you populate an empty document in Unifier with the completed document from your local machine.

The newest version of a document is available in the project or shell Documents log. Earlier versions can still be accessible in the View Revisions window. When a document is revised, the file itself is never changed. It remains untouched. Each version is maintained separately.

The procedures for uploading the revisions depend on the file transfer method you have chosen. The procedures for uploading revisions are the same as for uploading files.

Note: You can help control revisions by locking documents or checking them out prior to revising. If you have locked the file, you must unlock it before proceeding. If you have checked it out, you can revise it by checking it in, or cancel the check out before proceeding.

To revise a document using the revise function

1   Do one of the following:

  • If you are revising a file with a new version with the same file name, proceed to the next step.

  • If the revised file has a different name, select the document in the documents log, click the **Properties** button and select the **Options** tab. Be sure the **Revisions must have the same file name** checkbox is not selected.

2   Select the document in the documents log. If you are using the Advanced File Transfer method, you can choose multiple documents to revise.

3   From the **Edit** menu, click **Revise**. The Revise File window opens.

4   Do one of the following:

- If you are using the Basic or Intermediate File Transfer option, browse to the file to upload and click **OK**.
- For Advanced, select one file at a time to revise and click the **Modify** button. Navigate and select the file revision to upload. Click **Open**.

> **Note:** *You can click the* **Advanced Options** *button to expand the window. The options are the same as when uploading files into the Document Manager.*

5　Click **Upload** to upload the revised file into the Document Manager.

The publication number (Pub. No.) of the file increases by one for each revision uploaded. For example, the first time you upload a document, the publication number is 1. If you revise it, the publication number becomes 2, and so on.

To revise a document automatically upon uploading

1　Follow the procedure for uploading documents, based on your File Transfer option.

2　In the Upload window, click the **Advanced Options** button to expand the window.

3　Select the **Revise automatically if file with same name exists** option.

4　If you are uploading a file that has the same file name as a document that already exists in the Document Manager target folder, that document will automatically be revised to the newly uploaded version.

Access previous revisions

You can view earlier versions of a revised document, including any comments or markups or linked BPs on previous versions.

To view earlier versions of a document

1　Select a document in the project or shell Documents log.

2　Click the **View** menu and click **Revisions**. The View Revisions window opens, listing the current version and any previous versions of the document.

3　You can select one of the versions from the list and do the following:
- Click **Download** to download the selected version.
- Click **View** to open and view the document.
- Click **Comments** to view any comments added to the selected version.
- Click **References** to view any associated drawing reference files.
- Click **Linked Records** to view the list of BP records to which the selected version may be linked.

Check-in and check-out documents

The Document Manager's check-in and check-out capability helps you have greater control over document revisions. If you need to revise a file, you have the option of checking it out, which locks it and prevents others from modifying it. It is available to other users as view only. You can make changes to the document as necessary, then check in the new revision.

The procedure for checking out a document is similar to downloading a document. The procedure for checking in a document is similar to the procedure for revising a document.

When a document is checked out, the check-out icon appears next to the document name in the Document Manager log.

To check out a document

1   Select the document in the project or shell Documents log.

2   Click the **Check Out** button or click **Edit > Check Out**.

3   Download a copy of the file to your local system, using the download procedure for your File Transfer option.

> **Note:** *If you cancel the download procedure, the document will still be checked out to you.*

The Check Out icon appears next to the document in the log. You can upload a new revision and check the document back in, or you can cancel the check out without revising the document.

To check in a new revision of a checked out document

1   Select the document in the project or shell Documents log. Checked-out documents have an icon in the lock column.

2   Click the arrow next to the Check Out button and choose **Check In** or select **Edit > Check In**.

3   Do one of the following:
   • If you are using the Basic or Intermediate File Transfer option, browse to the file to upload and click **OK**.
   • For Advanced, select one file at a time to revise and click the **Modify** button. Navigate and select the file revision to upload. Click **Open**.

> **Note:** *You can click the **Advanced Options** button to expand the window. The options are the same when uploading files into the Document Manager.*

4   Click **Upload** to upload and check in the revised file into the Document Manager.

The publication number (Pub. No.) of the file increases by one for each revision uploaded.

To restore a checked out document without checking in a new revision

1   Select the checked out document in the project or shell Documents log.

2   Click the arrow next to the Check Out button and choose **Cancel Check Out** or select **Edit > Cancel Check Out**.

The document will no longer be checked out.

To find out which user has a document checked out

1   Select the checked out document in the project or shell Documents log.

2   Click the **View** menu and choose **Audit Log**. The Audit Log report displays the complete history of the document, including who last checked out or revised it.

Lock and unlock documents

If you are the owner of a document, you have the option of locking the document to prevent it from being revised or modified. Once a document is locked, only the document owner (or an administrator with proper permissions) can unlock it.

When a document is locked, users can:

• View the document, revision log, and audit log.
• Download or copy the document.
• Create a shortcut to the document.
• Modify document permissions.
• Move a document, or move the folder containing the document.

When a document is locked, users cannot:

• Delete, revise, edit properties, transfer ownership, or add comments or markups.

To lock or unlock a document

1 Select the document in the project or shell Documents log.

2 From the **Edit** menu, click **Lock** or **Unlock**.

> **Note:** *Only the document owner or an administrator with full access can lock or unlock a document.*

THE RECYCLE BIN

About the Recycle Bin

When you delete documents, folders, or shortcuts from project or shell Documents, they are stored temporarily in the Recycle Bin. These items can be restored back to their original location. Items in the Recycle Bin remain there until you permanently delete them.

Figure 10-21 Recycle Bin

Restore deleted items

Deleted documents, folders, and shortcuts that are still in the Recycle Bin can be restored back to their original locations.

Note: *If you restore a folder whose parent folder has been deleted, the folder structure will be recreated. However, the other contents of the parent folder will not automatically be restored.*

To restore deleted items in the Recycle Bin

1   Navigate to the Recycle Bin and do one of the following:
    • To restore a single item, select it and click the **Restore** button.
    • To restore all items in the Recycle Bin, click the **Restore All** button.

2   Click **Yes** to confirm.

Delete items from the Recycle Bin

Once documents, folders, or shortcuts are deleted from the Recycle Bin, they cannot be retrieved.

To permanently delete items from the Recycle Bin

1   Navigate to the Recycle Bin and do one of the following:
    • Select the item and click the **Delete** button.
    • Click the **Empty Recycle Bin** button to permanently delete all items in the Recycle Bin.

2   Click Yes to confirm.

PROJECT OR SHELL DOCUMENTS OR COMPANY DOCUMENTS ATTACHED TO A BUSINESS PROCESS

A document that is attached to a business process record maintains a link with that record. You can view the business process records to which any document is linked (permissions to view BPs apply). Because of this link, documents that are attached to BP records cannot be deleted.

Launch a business process from the Document Manager

A business process record can be launched directly from documents within Document Manager. This functionality applies to any business processes that support attachments directly to the form. This is not applicable to file attachments to comments.

For document-type BPs, the documents can to be added as line items, or they can be attachments to the form. For non-document-type BPs, the documents are added directly as form attachments.

Note the following:

• Text-type BPs such as action Items, even if uDesigner-created, cannot be launched directly from the Document Manager. This is because text-type BPs, by design, can have file attachments only to the comments section, not the form itself.

- Only document-type BPs can support folders. If you are trying to attach one or more folders to a non-document-type BP, the files within the folders will be attached, but the folder structures will be flattened.
- You cannot attach multiple files with the same name to the same folder. If you select multiple files and there are two or more with the same name, none of those files will be attached. After the form is created, you can attach the correct files using the Add Attachment button.
- You cannot attach shortcuts or empty documents for launching a new BP. If you select a folder containing empty documents or shortcuts, these will be ignored.
- The BP list that you see in the drop-down menu is the list of all available active business processes in the project or shell. Once you select a BP, a permission check will be run. You must have at least create permission on that BP to launch a BP from the Document Manager.

To launch a BP from within the Document Manager

1   Select one or more files or folders in the project or shell Documents or Company Documents log.

    You can also launch a business process record without selecting any documents or folders. In this case, the BP will be created with an empty attachment area.

2   Click **New > Business Process** and choose the BP to launch.

3   If applicable, select a workflow when prompted and click **OK**.

4   You may receive alert messages. For example, if you are trying to attach folders to a non-document-type BP (the documents will attach, but the folders will be flattened), or if a selected file cannot be attached. Read any alert message carefully. Click **OK** to close the window.

5   You can add additional documents to the business process record as you normally would. See Chapter 5, "Business Processes" for more information.

6   Complete the BP form and send as usual. The attached documents are linked to the business process record.

View linked business process records

If a document in project or shell Documents or Company Documents has been attached to one or more business process records, an icon will appear in the BP column next to the document in the log. You can view the records to which the document is attached as long as you have view permissions for that BP.

To view business process records to which a document is linked

1   In the project or shell Documents or Company Documents log, select a document. Documents with the paperclip icon in the BP column are linked to BP records.

2   Click the **View** menu and select **Linked BP Record**s. The View Linked Records window opens.

3   To open the BP record form, select it form the list and click the **Open** button or double-click the record. You must have permission to view the specific BP in order to open the record.

REPORTING

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INDEX REPORTS

The index report utilizes the Unifier user-defined report engine. It lists content (documents, subfolders, shortcuts) within a selected folder, properties, and phase (contents may be associated with more than one phase). The index report can be generated in HTML, PDF, or CSV format.

To view an index report

1   Select a folder in folders view of the project or shell Documents or Company Documents node.

2   From the **File** menu, click **Index Repor**t and choose the format to display:

   • **HTML:** Displays the report in a browser window.

   • **PDF:** Creates a PDF file of the report.

   • **CSV:** Creates a CSV file of the report.
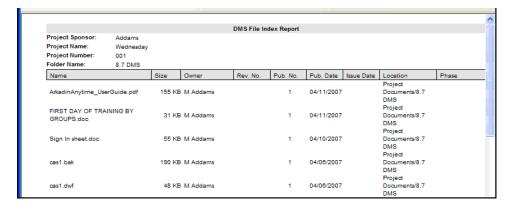
Figure 10-22 Index Report example

To print an index report (all formats)
Click the **File** menu and select **Print**.

Note: If you are using Internet Explorer 7, the menu bar may not display automatically. If the menu bar is not displayed, right-click in an empty portion of the toolbar and select **Menu Bar***. You may need to exit Unifier and reopen the IE 7 browser window to do this. The menu bar will then display each time you open a new browser window.*
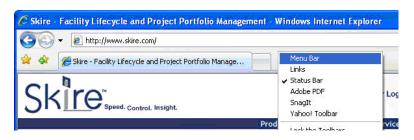
Figure 10-23 Right-click an empty space on the toolbar to select Menu Bar (IE 7)

VIEWING AUDIT LOGS

The Audit log lists all activity on a selected document or folder.

View Document Manager Audit log

To view the Audit log

1   Select a folder or document in the project or shell Documents or Company Documents log (or a folder in the folders view).

2   From the **View** menu, click **Audit Log**. The Audit Log window opens.

3   The Audit log contains the following information:

- **Date:** The date and time stamp the item was accessed.
- **Event:** The folder in which the action was performed.
- **Action:** The action taken by the user.
- **Field name:** The field name affected by the action, if applicable.
- **Old value:** The original field value before an action was performed, if applicable.
- **New value:** The new field value after the action was performed, if applicable.
- **User name:** The person who took action on the item.
- **Proxy user:** If the action was performed by a proxy.
- **Attachment**
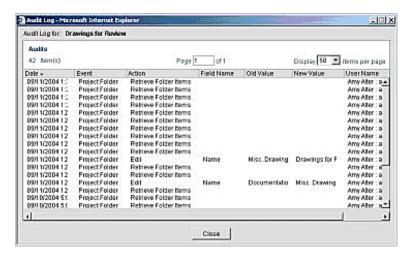
Figure 10-24 Audit log example

UNPUBLISHED DOCUMENTS

. . . .

About unpublished documents

The Unpublished Documents node is an automatic repository for files that have been attached to business processes and which have not yet been published in project or shell Documents or Company Documents. That is, when a user uploads a file from a local machine and attaches it to a business process, the document is automatically stored in the Unpublished Documents log as soon as the business process is sent. The link to the business process is also listed in the log.

The link to the BP allows the BP record to be reviewed, allowing the administrator to review where the document originated from. This provides a means to control the documents that are accessible in the Document Manager. For example, a subcontractor submits a Request for Information (RFI) with attached documents requesting input from the architect. These attached documents can be traced back to the original BP through the link, and the documents become available in the unpublished area of the Document Manager. The administrator can then review the documents and make the decision to publish them into the project or shell or Company Documents node and where to store them, or not to publish them at all.

Note the following:

• This process applies only to uDesigner business processes that support form attachments.

• Text-type BPs, such as action items or RFIs, even if uDesigner-created, are excluded. This is because text-type BPs, by design, can have file attachments only in comments, not to the form itself.

• Files cannot be directly uploaded to or deleted from the Unpublished Documents folder.

• Permissions for unpublished documents are at the node-level only. You can either see all the documents or you cannot see any. There are no document-level permissions. Folder-level permissions are not applicable, as there are no folders in Unpublished Documents.

• Drawing files are handled with the base file listed and the associated reference files bundled with it, similar to a zip file.

Unpublished Documents log

The documents in the Unpublished Documents log display the name of the business process, which is a direct hyperlink to the BP record. Those users who have log permission to view the BP can click the link and view the linked BP record.

The unpublished documents area is a flat list. There are no folders in this node.

If a document is linked to more than one record, each instance will be listed in the log, each with a link to the corresponding business process.

Open an unpublished document

To open and view an unpublished document
Select a document in the Unpublished Documents log and click **Open**. The document will open in the viewer.

To view reference files
Select a drawing file in the Unpublished Documents log, click the **View** menu and select **References**. If references are associated with the document, they will be listed. Drawing and reference files are bundled.

Open a linked business process record

To open the BP record to which an unpublished document is linked

1   Select the document in the Unpublished Documents log.

2   Click the **View** menu and select **Linked BP Record**. The BP record opens, assuming you have permission to view it.

View unpublished document properties

Properties of an unpublished document cannot be modified.

To view the properties of an unpublished document
Select a document in the Unpublished Documents log and click **Properties**. The Properties window opens.

View unpublished document comments

Comments and markups added to the document from the BP can be viewed.

To view comments or markups on an unpublished document
Select a document in the Unpublished Documents log and click **Comments**. The Comments window opens.

Download an unpublished document

To download an unpublished document
Select a document in the Unpublished Documents log and click **Download**. Follow the procedure for downloading a document in the project or shell Documents node.

Delete an unpublished document

A document cannot be deleted directly from the Unpublished Documents or the project or shell Documents folders if it is linked to a BP.

A document is stored in the Unpublished Documents node automatically when it is uploaded directly from a local machine or network and attached to a business process. If that document is then deleted from the BP during the workflow (or for a non-workflow BP, the document is deleted when the BP is in Draft mode), then it will be deleted automatically from the Unpublished Documents log.

The document cannot be deleted if the BP has already completed the workflow, or if the document has already been moved by an administrator to the Published Documents folder.

Tip: You can create a special folder in project or shell Documents for documents that you want to publish and limit access to, but can still retain traceability.

Search for an unpublished document

There are two ways to find an Unpublished Document:

• **Search by Properties**: You can search by document title, file name, or record number (the linked BP record).

> ***Note:*** *This search option can be customized through uDesigner. If a designer has imported Document Manager attribute forms, the search criteria can also be customized. This means that the fields on which you can search may differ from the above list.*

• **Search by Content**: This allows you to search for a document by specific content or keywords within the document. This option works on most file types other than drawing files. You can search by single word or exact phrase in quotes ("training document").

The supported file types for content search are listed below:

doc, pdf, txt, xls, htm, rtf, html, csv, xml, xsd, java, c, cpp, vm, bat, bak, css, log, sql, ncs, sh, properties, vpp, wtx, xhtml, xslt, ppt, mpp, vsd

To search for documents by properties

1   In Unpublished Documents, click the **Find** button and choose **Search By Properties** (or click the **View** menu and choose **Find > Search By Properties**). The upper portion of the log expands to display the Find fields.

2   Enter search criteria in one or more of the **Find** fields, for example, the full or partial name of a file.

3   Click the **Search** button. The log will display the search results.

4   To close the Search fields, click the **X** in the upper right corner.

To search for documents by content

1   In Unpublished Documents, click the **Find** button and choose **Search By Content** (or click the **View** menu and choose **Find > Search By Content**).

2   Enter one or more keywords to search for within the documents.

3   Click the **Search** button. The log will display the search results.

4   To close the Search fields, click the **X** in the upper right corner.

Tip: For best results, use only alpha-numeric characters in your search criteria. If you are not receiving the search results you are expecting, try placing your criteria in quotes.

Publish a document to project or shell or Company Documents

Publishing a document from Unpublished Documents to the project or shell Documents or Company Documents node makes it available to team members, with the full functionality available in that node.

Only a document administrator (administrator or other user with full access to the Document Manager) can publish documents from the Unpublished Documents node into project or shell or Company Documents. Documents can be published one at a time.

To publish an unpublished document to the project or shell Documents node

1 In the Unpublished Documents node, select the document to publish and click **Publish**. The Publish File window opens.

2 Select the destination folder.

3 Select the **Include Comments** checkbox if you want to include any attached comments with the document. To review the comments, select the document from the log and click the **Comments** button.

4 Click **OK**.

> ***Note:*** *The user who publishes the document becomes the owner. In the project or shell Documents or Company Documents node, select the document and click* **Permissions** *to grant the proper permissions to the team members who need it. You may want to click* **Properties** *to review properties and update if necessary.*

11

PLANNING MANAGER

In this chapter

- *Creating planning items*
- *Creating planning sheets and adding planning items to the sheet*
- *Modifying planning items*
- *Printing planning records*

OVERVIEW

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The Planning Manager provides sponsoring companies the ability to create, organize, manage, and update all company planning initiatives from conception to completion. It supports the ability to define unlimited number of planning categories, such as capital project planning, IT planning, resource planning, etc., providing a flexible method for managing and organizing any type of planning initiative.

The Planning Manager provides the flexibility of defining unique planning item property forms and planning sheets. Each planning sheet can be configured with any number of columns to capture and manage data for all planned items.

In addition, the planning sheet can be configured to compare planned data with actual rolled up data from Unifier projects/shells, related to each planned initiative.

The Planning Sheet is central to Planning Manager functions. Each planning item "type" (such as a capital plan or a campus remodel) can have one or more planning sheets that contain information about the plans of this type being considered by your company. It is from these sheets that you can access, create, update, and import or export company plans. Business processes designed for planning items can roll up information onto the planning sheets. In addition, Project/Shell Creation types of business processes can be designed to create new projects or shells for planning items when they reach a certain status or condition. If the Project/Shell Creation BP includes a Planning Item Picker, you can link new projects/shells with a planning item. At runtime in Unifier, this BP will automatically create a link to the planning item when the project/shell is created, and data will begin to roll up to the Planning Sheet from the business processes in this project/shell.

In Unifier, the **Planning Items** node is where you create new plans and proposals, import plans from outside applications, export a plan template, and link a plan to a running project or shell in Unifier.

The **Planning Sheets** node is where you create and manage planning sheets. A planning sheet can contain data for one or multiple plans and proposals. From the planning sheet, users can automatically update individual plans with data added to the planning sheet and refresh the data on the sheet, such as changes to dates or cost numbers.

WORKING WITH THE PLANNING MANAGER

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Planning types and planning sheets

The Planning Manager groups planning initiatives by planning type; for example, Capital Planning or IT Planning. Each planning type will have a node available for planning items in that type, and also for planning sheets to manage the planning initiatives.

View planning items and planning sheets

Planning items and sheets are grouped by their planning type.

To view planning items and planning sheets

1   In User Mode, navigate to **Company Workspace tab > Company > Planning Manager**.

2   Choose a planning type, and click the corresponding node for planning items. For example, for a Capital Planning type, the following nodes could be available: Capital Planning - Item (for planning items) and Capital Planning - Sheets (for planning sheets).

File Edit View Help					
⬜ New 📂 Open 📄 Permission 📋 Import 📄 Export Template 🔍 Find					

Capital Planning - Items - Current View: All

12 Item(s)   Page 1   of 1   Display 100 ▾ items p

Planning Item ↓	Plan Priority	Plan Phase	Total Plan Budget	Project	Creator
Santa Clara Campus Ware	High	Proposed	5,500,000.00		PM Admin
Sanitation and Sewage Infi	Low	Proposed	1,000,000.00		PM Admin
Remodel Cafeteria	Low	Approved	1,000,000.00	Unifier 9.0 Overview	Harish Bhagavatula
North Tower Parking Lot Ex	Low	Approved	3,500,000.00		PM Admin
North Tower Expansion	Medium	Proposed	3,500,000.00		PM Admin
HQ Main Lobby Redesign	Low	Rejected	1,400,000.00		PM Admin
Employees Cafeteria Expa	Low	Approved	2,000,000.00	Employees Cafeteria Expa	PM Admin
Chicago Emergency Ward	Medium	Proposed	3,500,000.00		PM Admin
Central Region Commerci	Medium	Proposed	4,323,200.00		PM Admin
Atlantic Region Plant Reno	High	Approved	4,300,000.00	Atlantic Region Plant Reno	PM Admin
Atlanta Main Shipping Cen	High	Proposed	3,200,000.00		PM Admin
Assembly Plant Saint Loui	Medium	Proposed	1,500,000.00		PM Admin

Figure 11-1 Access planning items per planning type

Create a planning item

To create a planning item

1   In User Mode, select the planning type items listing under **Company Workspace tab > Company > Planning Manager**. The planning items log opens.

2   Click **New**. The planning item form opens.

3 Complete the form fields. The form fields will vary depending on the design of the form for this planning type.

4 Save the form (click **Save** to save or **Finish Editing** to prevent further editing).

> If the planning item form has a Project or Shell Picker, you can use it to link the planning item directly to a project/shell. Business processes in the project or shell with fields that match those on the planning item form will roll up values to the Planning Sheet.
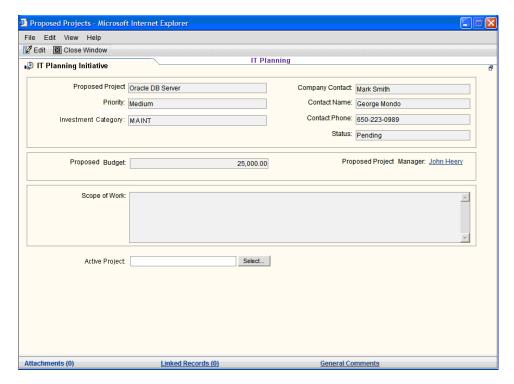
Figure 11-2 Example planning item, as designed in uDesigner

Create a planning sheet

You can create planning sheets for each planning type. These are based on templates created in Administration Mode.

To create a planning sheet

1 Navigate to **Company Workspace tab > Company > Planning Manager**.

2 Under the planning type for which you want to create a sheet, click the **[planning item] - Sheet** node. The planning sheets log opens.

3 Click **New**. The Properties window opens.

4 On the **General** tab, name the planning sheet and enter an optional description.

5 Click the **Options** tab. For:

- **Sort by Column:** Choose the column to sort the planning item rows by. The default is Name (planning item name). As you add additional columns to the sheet, these columns will be available to select.

- **Sort Order:** Choose **Ascending** or **Descending**; works in conjunction with Sort by Column.
- **Update Planning Items:** Select this checkbox if you want planning sheet users to be able to manually edit planned item data. This helps prevent conflicting data from multiple planning items. This box can be checked on only one sheet per planning type. When you select this box, the sheet is moved to the top of the log and displayed in bold font, thereby acting as a master planning sheet.

6   Click **OK**. The planning sheet opens. The columns are those defined in the default structure. You can add additional columns as needed. See the *Unifier Administration Guide* for information about adding columns to planning sheets. Rows correspond to planning items. See "Add and manage planning sheet rows" on page 546.

Copy a planning sheet

The user will be allowed to create a new planning sheet under a planning type by copying another planning sheet. When a planning sheet is created by copying another planning sheet, all column definitions, manually entered data with each row should be replicated (copied over) including column definitions.

To create a planning sheet by copying another planning sheet

1   Select a planning sheet from the Planning Sheet log window.

2   Click the **Copy** button. The Properties window opens.

3   Enter a name for the new sheet. You can change the selections in the Options tab.

4   Click **OK**.

Open the planning sheet

To open a planning sheet
From the log window, double-click a sheet or select a sheet and click the **Open** button.
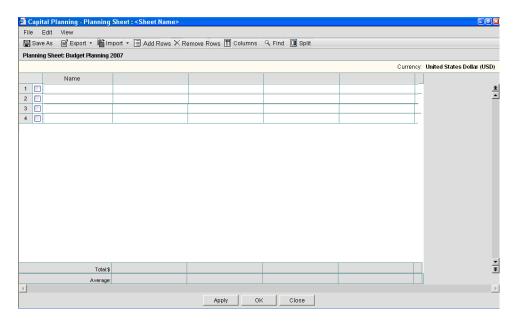
Figure 11-3 Blank planning sheet

Columns displayed initially are based on the planning sheet default structure defined in Administration Mode (Configuration node).

Add and manage planning sheet rows

You can add planning items of the same type to create rows on the planning sheet. By default, there are two rows at the bottom of the sheet, one for total and one for average, which add a summary row for the column data.

To add a row (planning item) to a planning sheet

1   Open the planning sheet.

2   Click the **Add Rows** button. The planning items window opens, displaying the planning items created for the planning type.

3   Select one or more items and click **Add Row**. The rows are added to the sheet.

To delete a row from the planning sheet

1   Open the planning sheet.

2   On the planning sheet, select one or more rows to delete.

3   Click the **Delete Rows** button.

4   Click **Yes** to confirm. The rows will be removed from the sheet.

Figure 11-4 Add a planning item to the planning sheet

View column details

Clicking on a column link from the planning sheet will display the column details.

Figure 11-5 View column details

Refresh a planning sheet

Refreshing the planning sheet will update all rolled-up column data. This process runs in the background and may take some time to complete, depending on the design of the sheets being updated.

To refresh a planning sheet

1   Navigate to the planning sheet log.

2   Select one or more planning sheets and click the **Refresh** button.

Once the Refresh button is clicked, the Last Update column (if the log window was designed to show this column) will display In Progress to indicate that the planning sheet is getting refreshed. When the refresh is complete, the Last Update column will show the date on which the sheet was updated. Do not open the sheet while refresh is in progress.

Modify planning items from a planning sheet

You can update planning item information from a planning sheet. The **Update planning items** option must be selected in the planning sheet properties (Options tab).

While defining columns on a planning sheet, data elements from the planning item can be selected. Some of these data elements can be edited from the planning sheet. Changes made to these elements are reflected on planning items automatically.

Data elements that are editable and not required on the planning item form will be editable from the planning sheet. The following are conditions under which a data element is not editable from the sheet:

• BP picker data elements
• Project picker
• Shell picker
• Data elements that are required on the form
• Data elements that are of SYS Logical Datasource (formulas)
• Data elements that are SYS Datasource

You cannot change the planning name. This can only be changed from the planning item window.

Grant planning sheet permission

In addition to module-level permission, access to each planning item and planning sheet can be controlled based on user side permissions. The creator of a planning sheet is the owner of the sheet. By default, the owner has full sheet permissions. The owner can grant permission to other users or groups as needed.

To grant permissions to a planning sheet

1   In the planning sheet log, select the planning sheet.

2   Click the **Permissions** button. The Edit Permission window opens.

3   Add the users or groups you wish to grant permission, set the permission level, and click **OK**. The permission settings are:

   • **Modify Permission:** Can view, edit, and modify permissions of a planning sheet.
   • **Modify Properties:** Can edit planning sheet properties.
   • **Edit:** Can view, add, edit, or import data on a planning sheet. The user cannot change the column structure.
   • **View:** Can view the planning sheet in view-only mode.
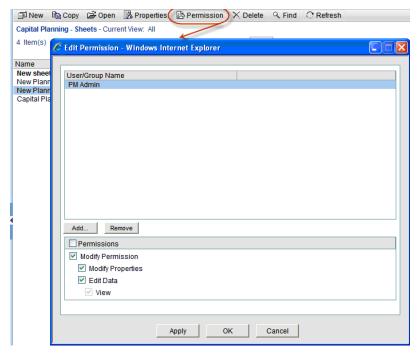
Figure 11-6 Grant permission to the planning sheet

UNDERSTANDING REVERSE AUTO-POPULATION

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be updated when other values are modified in a business process record that has reached a specified status.

Depending on the setup in uDesigner, auto-population can occur in these instances:

• Changes to data elements in a BP upper form can result in changes to the upper form of another BP.

• Changes to the detail form in a BP can result in changes to the upper form and detail form of another BP.

• Changes to the upper form or detail form of a BP can result in changes in the Asset, Resource, or Planning Manager forms.

BULK EDITING PLANNING ITEMS

Bulk edit planning items from the Planning Manager log

If you have a large number of planning items that need the same edits, you can use bulk edit to update all of the items at once. You can update up to 200 records at a time. Bulk editing must be defined in uDesigner, and you must have the Allow Bulk Edit permission set on the planning items.

Note: *Bulk edits overwrite data without asking you to verify each record. Be sure that you have entered the data you want to edit correctly.*

To update planning items using bulk edit

1 Navigate to the Planning Items log.

2 Select one or several planning items or use **Find** to search for a group of planning items with specific criteria. You can select the items from the planning item log or the Find log.

3 Choose **Edit > Bulk Edit**. The Bulk Edit window opens. The fields displayed depend on what is specified in uDesigner for the planning item.

The Bulk Edit form includes all editable fields for the planning item. All system-generated elements and formula columns are automatically recalculated during the bulk edit for each record.
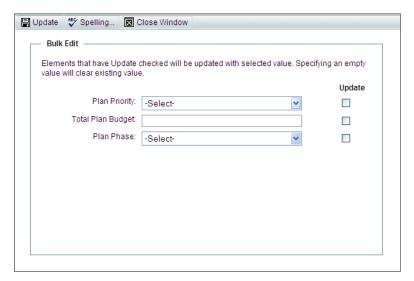
Figure 11-7 Bulk Edit window, example

4 Modify the Bulk Edit form as needed.

5 Select the **Update** checkbox for the fields you want to update. The checkbox is automatically selected when you type in a field. You can deselect it if you do not want to modify the field.

6 To start the bulk update of the selected records, click **Update**. The Bulk Actions Status window displays the progress of the update.

7 Click **OK** after all records have been processed. Click **Cancel** if you want to cancel the bulk update in progress.

PRINTING PLANNING ITEM RECORDS

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At times, you may need to print copies of a planning item form. You can save a copy of the form as a PDF file and print the file, print an HTML view, or print from a Word file if a custom print layout has been created for the form.

Note: *To print, the form must be in View mode. View mode refers to the non-editable version of the form. If the form is currently editable, you must click Finish Editing before the form can be printed.*

Print a planning item form

When printing planning item forms from PDF or HTML format, you can choose to include not only the information on the form itself, but also associated information such as general comments and information about file attachments. The print options are:

- Detail form data
- General comments made to the record
- Information about file attachments on the record or line items
- Comments made to file attachments

If custom print layouts have been created for the planning item, the form will print according to the layout that you select.

To preview and print a planning item in PDF or HTML format

1   Open the planning item that you want to print. Be sure it is in a view mode.

2   From the **File** menu, choose **Print Preview**, then choose one of the following:
- **HTML**, to view the form in the browser, which can then be printed.
- **PDF**, to open the form in Adobe Reader, which can be saved as a PDF file, or printed.

   The Print Options window opens. This window displays the record information that can be printed.

3   Select the checkboxes for the information that you want to print.

4   To select all the checkboxes, click the **Select All** checkbox. To deselect all, uncheck the **Select All** checkbox. If you deselect all checkboxes, only the header and footer will print.

5   Click **OK**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.

   If you chose PDF, you can save a copy by clicking the **Save a Copy** button, or print. To print from HTML format, click on the **Print** icon in the upper right corner.

Print Options

Following is a summary of the print options.

Print option	What it prints
Detail Form	This prints the information entered on the form.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name, and also include the file title, issue date, revision number, and file size.
Record Attachments > Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.

To print a planning item with a custom print layout

1   Open the planning item that you want to print. Be sure it is in a view mode.

2   From the **File** menu, choose **Print Preview > Custom**. The Custom Format Print window opens. The window lists custom layout options set up by the administrator.

3   Select a layout and click **OK**. The File Download window opens.

4   Choose to **Open** or **Save** the file, which is a Microsoft Word DOC file.

5   Open the file in Microsoft Word and print. This feature can be used with Microsoft Word 2003 and 2007.

12　**ASSET MANAGER**

In this chapter

▸ *Creating assets*
▸ *Working with asset sheets*
▸ *Printing asset forms*

OVERVIEW

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ABOUT THE ASSET MANAGER

The Asset Manager module is part of the company workspace. It is used to manage assets and depreciation. You can track assets and depreciation on their associated asset sheets.

The Asset Manager allows you to:

- Create, organize, and manage company assets
- Define an unlimited number of asset classes, and design an asset attribute form per asset class
- Create assets manually, using templates, or importing
- Apply multiple asset depreciation methods: straight line, double decline, sum of years digits, manual
- Track the asset's total cost of ownership: roll up maintenance-related costs from projects or company level business processes to specific company account codes

The Asset Manager uses the three most common depreciation methods—straight line, double decline, or sum of year digits—as well as manual depreciation. Irrespective of which method is used, asset depreciation is calculated for the entire life of the asset over whatever period you specify. For example, if an asset is depreciating over two years and you specify a monthly depreciation increment, then the asset's value will be recalculated each month for two years from the date of acquisition.

Asset classes

Assets are grouped in classes (for example, buildings, equipment, etc.). The detail forms that are used to enter asset information can be configured in uDesigner per class and imported into Unifier. For example, you can design and use different forms for entering information about your company's building assets and equipment assets. Each asset exists as a unique record.

Asset codes

Asset codes are generated automatically when assets are created.

The asset code will be built using different data elements defined on the asset form as segments. At runtime, the asset code is built automatically based on the data element values selected.

A tree structure is automatically built to access these assets based on the asset codes. Assets with the same segment values will be grouped together to form a hierarchy.

Asset sheets

You can track assets and depreciation on asset sheets. There is one asset sheet per class, listing details about each asset in that class, plus an asset summary sheet, which helps you track all of your assets in one place.

Note: *User permissions are granted per asset class or sheet. If you cannot view any part of the Asset Manager to which you require access, contact your company administrator.*

WORKING WITH ASSETS AND ASSET SHEETS

CREATING AND MANAGING ASSETS

You can create and manage your company assets in the Asset Manager in the company workspace portion of the Navigator.

Each asset that you add to the system exists as a unique record. You can create new assets manually by copying from a template within the same asset class, copying another asset in the same class, or by importing assets. The form that is used to enter the details about each asset is designed in uDesigner for each class. The form design can vary greatly from class to class.

Access the Asset Manager

To access the asset manager

1   In User Mode, select **Company Workspace tab> Company > Asset Manager**. The Asset Manager displays asset sheets and asset classes.

2   To access asset sheets, click the **Asset Sheets** node.

3   To access assets, select an asset class. The log opens for the asset class.

The center navigation pane displays the segments of the asset codes hierarchically by their segments, as selected in the properties window for each asset. These nodes are created as asset codes are created. The right pane lists all assets created under the selected class.
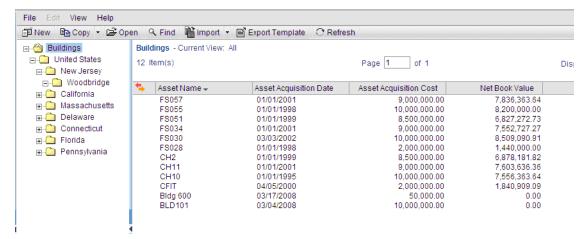
Figure 12-1 Assets log for the asset class Buildings

Asset Manager navigation and asset codes

Assets are organized by the segments of the asset codes. Asset codes are based on segments. These segments are created when the asset is created, based on the values entered on the asset form. For example, for an asset class Buildings, the asset codes for individual assets may be built by location segments: country-state-city. You can then view all buildings in the asset class or drill down to all buildings per segment (per country, state or province, and city).

Click the asset class name in the asset navigator to view all assets created under the class, or click each segment to view assets matching the segment.

Create a new asset

You can create new assets manually by copying from a template within the same asset class, copying another asset in the same class, or by importing assets.

The form that is used to enter the details about each asset is designed in uDesigner for each class. The form design can vary greatly from class to class.

Each asset that you add to the system exists as a unique record.

You can manually create new assets or create assets by copying from another asset or from a template. If the asset record or template also has a depreciate schedule set up, it will also be copied to the new asset.

To create a new asset manually

1   In User Mode, select **Company Workspace tab > Company > Asset Manager**. Select an asset class. The Asset Class navigator opens.

2   Select the node under which you want to create the new asset.

3   Click **New**. The Create New Asset form opens.

4   Complete the form. This form is similar to a non-workflow business process form and has two sections:

  • **General:** In the upper portion of the form, enter all the details about the asset.

  Note: The asset form is designed in uDesigner. The actual fields and form layout for the asset or template you are creating may differ greatly for each class.

  • **Depreciation Schedule:** Setting up a depreciation schedule is optional. Before you can set up a depreciation schedule, you must first save the form.

5   After completing the form, click **Save** to save changes to the upper form, or **Finish Editing** to save and close the form.

  Note: After saving the form, the Depreciation Setup button becomes available. Depreciation Setup is described in the Unifier Administration Guide.

To create an asset by copying from a template

1   In the Asset Class navigator, click the **Copy** button and choose **Template**. A list window opens displaying all templates for the asset class.

2   Select a template and click **Open**. The Create New Asset form opens. The form may be populated with general and depreciation information from the template.

3   Make changes as needed and click **Save** or **Finish Editing** to save the new asset. After saving, the Depreciation Setup button becomes available.

To copy an asset

1   Select an asset from the log and click **Copy > Asset**. The form opens, with the information from the original asset.

2   Make changes as needed and click **Save** or **Finish Editing** to save the new asset. After saving, the Depreciation Setup button becomes available.

WORKING WITH ASSET SHEETS

Asset sheets are created automatically when asset classes are imported and activated. Asset sheets are listed in the Asset Sheet log window in the User Mode Asset Manager. There is one sheet per asset class, plus an asset summary sheet that summarizes all asset sheets. Assets are added to asset sheets as rows automatically, listed by the segmented asset code. In the asset summary sheet, the rows are the asset classes.

The asset summary sheet displays information of all asset sheets. It displays total values from individual asset class sheets. The asset summary sheet is created automatically once the first asset class is imported. Asset classes imported into Unifier are automatically added as rows.

Columns can be added to asset sheets. Some examples of columns include:

• Business processes (Company-level BPs with the line items with asset code subtype are available; only the amount field is available.)

• Project cost columns; most columns from project cost sheets are available (only the amount field is available). This is available when projects are created under asset categories.

• Manual entry or formula columns.

Creating columns is described in the *Unifier Administration Guide*.

Access asset sheets

Asset sheets are listed in the Asset Sheet log window in the Asset Manager. There is one sheet per class, plus a summary sheet which lists all sheets in all classes.

Note: *You must have permissions to access any listed sheet. If you need access to a sheet not listed in the log, contact your company administrator.*

To access asset sheets
In User Mode, select **Company Workspace tab > Company > Asset Manager > Asset Sheets**. The Asset Sheets log opens. The log lists any existing asset sheets: one asset sheet per class, which is automatically created when an asset class is activated, plus an asset summary sheet that summarizes asset class information.

To open an asset sheet
Select the sheet in the log and click **Open**.
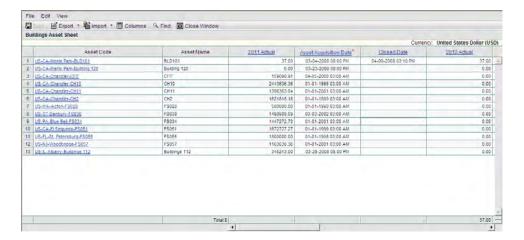
Figure 12-2 Example asset sheet
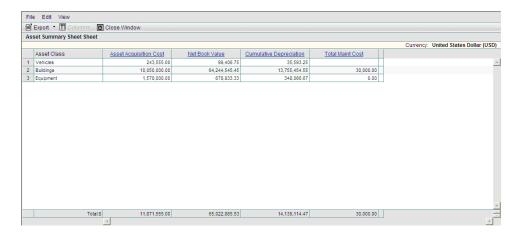
Figure 12-3 Example asset summary sheet

View asset and column details

To view column details
Open the asset sheet and click a column heading. A view-only window opens displaying the column details.

To view asset details
Open the asset sheet and click a listed asset. Assets appear on the sheet as hyperlinks. A view-only window opens displaying the asset details.
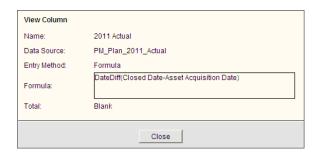
Figure 12-4 View column details

View asset sheet properties

The Properties window for the asset sheet maintains the name and display options, and can be used to map a column to a company account code.

To open the asset sheet Properties window

In the Asset Sheets log, select the sheet and click the **Properties** button. In the Options tab, asset sheet columns can be mapped to company account codes. The total value of the column will roll up to the company accounts sheet.
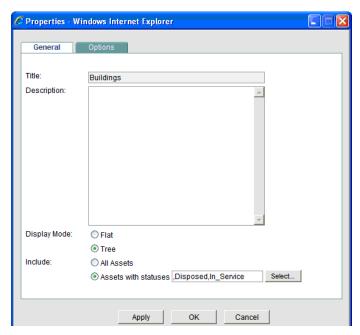
Figure 12-5 Asset sheet properties

Enter or edit asset sheet data

For manual data-entry columns, you can enter data directly into the sheet.

To enter asset sheet data

1   Open the asset sheet.

2   Click inside a manual entry column cell to enter data.

3   Click the **Save** button to save changes.

Create and view a snapshot

You can save a snapshot of an asset sheet or the asset summary sheet.

To save a snapshot

1   Open the asset sheet or asset summary sheet.

2   Choose **File > Create Snapshot**. The Create Snapshot window opens.

3   Enter a title and click **OK**.
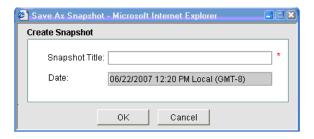
Figure 12-6 Create a snapshot

To view a saved snapshot

1   Open the asset sheet or asset summary sheet.

2   Choose **View > Snapshot Log**. The snapshot log opens.

3   Select the snapshot from the list and click **Open**. A read-only view of the asset sheet or asset summary sheet opens, displaying the sheet data at the time of the snapshot.

Import asset sheet column data

You can enter column data into manual-entry columns by importing a CSV sheet. Columns are limited to those of numeric data elements on the asset form.

First, export the CSV structure, enter the data into the CSV file, and then re-import the CSV file.

To export a manual-entry column

1   Open the asset sheet.

2   Click **Export > Column Data**.

3   Save the CSV file to your local drive.

To enter column data

1   Open the CSV file.

2   Enter column data for each listed asset. Be careful not to change the CSV file structure.

3   Save the CSV file.

To import column data

1   Open the asset sheet.

2   Click **Import > Column Data**.

3   Browse to the CSV file containing the column data and click **OK**.

Copy data from one column to another

You can copy data from one manual entry column to another.

To copy data from one column to another

1   Click the **Edit** menu and choose **Copy > Column Data**. The Copy Column Data window opens.

2   Complete the window as described in the following table.
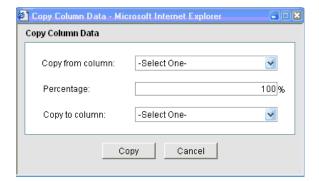
Figure 12-7 Copy column data

In this field	Do this
Copy from column	Select the manual entry column to copy the data from (numeric or date).
Percentage	Enter the percent of the value to copy. Enter 100% to copy the entire value.
Copy to column	Select the manual-entry column to copy the data to (numeric or date, based on the Copy from column selection.

Search for assets on an asset sheet

To search for assets

1   Open the asset sheet.

2   Click **View > Find**. The Find window opens.

3   Choose a column from the asset sheet and enter a value to search.

4   Select the direction to search (up or down from the selection on the sheet).

5   Click **Find Next** to search for the entered value. You can click again to continue searching.

6   Click **Cancel** to cancel the search.

Figure 12-8 Search for assets

Export asset sheet or summary sheet data

You can export data from asset sheets or the asset summary sheet in CSV format.

To export an asset summary sheet

1   Open the asset summary sheet.

2   Click the **Export** button and choose **Summary Sheet**.

3   Save the CSV file to your local drive. The data is for reference only and cannot be re-imported.

To export summary data on an asset sheet

1   Open an asset sheet.

2   Click the **Export** button and choose **Summary Sheet**.

3   Save the CSV file to your local drive. The data is for reference only and cannot be re-imported.

UNDERSTANDING REVERSE AUTO-POPULATION

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be updated when other values are

modified in a business process that has reached a specified status. Auto-population can occur on BPs that are in the same shell or across shells.

Depending on the setup in uDesigner, auto-population can occur in these instances:

- Changes to data elements in a BP upper form can result in changes to the upper form of another BP.
- Changes to the detail form in a BP can result in changes to the upper form and detail form of another BP.
- Changes to the upper form or detail form of a BP can result in changes in the Asset, Resource, or Planning Manager forms.

In the Asset Manager, reverse auto-population might occur if a move-order BP references an asset record. Updates on the move order can be reverse auto-populated on the asset.

BULK EDITS FOR ASSETS

Edit assets using bulk process from the asset log

If you have a large number of assets that need similar edits, you can use bulk edit to update all of the assets at once. You can update a maximum of 200 records using bulk asset edit. The bulk asset edit must be defined in uDesigner, and you must have the Allow Bulk Edit permission set on the asset class.

Note: *Bulk edits overwrite data without stopping for you to verify the overwrite of each record. Be sure that you have entered the data you want to edit correctly.*

To update assets using bulk edit

1 Navigate to the asset log.

2 Select one asset or several assets, or perform a find to search for a group of assets to work with. You can select the assets from the asset log or the Find log.

3 Choose **Edit > Bulk Edit**. The Bulk Edit window opens. The fields displayed in this window depend on what was specified for detail form integration in uDesigner for the asset class.

   The Bulk Edit form includes all editable fields for the detail form for the asset class.

4 Modify the bulk edit form as needed.

5 Select the **Update** checkbox for the fields you want to update. The checkbox is automatically selected when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.

6 Click **Update**. This launches the bulk update of the selected assets.

7 The Bulk Actions Status window displays after you click Update. This window allows you to monitor the progress of the bulk asset update. Click **OK** after all records have processed. Click **Cancel** if you want to cancel the bulk update in progress.

PRINTING ASSET RECORD FORMS

At times, you may need to print copies of an asset form. You can save a copy of the form as a PDF file and print the file, print an HTML view, or print from a Word file if a custom print layout has been created for the form.

Note: *To print, the form must be in View mode. View mode refers to the non-editable version of the form. If the form is currently editable, you must click Finish Editing before the form can be printed.*

Print an asset form

When printing asset forms from PDF or HTML format, you can choose to include not only the information on the form itself, but also associated information such as general comments and information about file attachments. The print options are:

- Detail form data
- General comments made to the record
- Information about file attachments on the record or line items
- Comments made to file attachments

If custom print layouts have been created for the asset class, the form will print according to the layout that you select.

To preview and print an asset form in PDF or HTML format

1   Open the asset record that you want to print. Be sure it is in a view mode.

2   From the **File** menu, choose **Print Preview**, then choose one of the following:
   - **HTML**, to view the form in the browser, which can then be printed.
   - **PDF**:, to open the form in Adobe Reader, which can be saved as a PDF file, or printed.

   The Print Options window opens. This window displays the record information that can be printed.

3   Select the check boxes for the information that you want to print.

4   To select all the checkboxes, click the **Select All** checkbox. To deselect all, uncheck the **Select All** checkbox. If you deselect all checkboxes, only the header and footer will print.

5   Click **OK**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.

   If you chose PDF, you can save a copy by clicking the **Save a Copy** button, or print. To print from HTML format, click on the **Print** icon in the upper right corner.

Print Options

Following is a summary of the print options.

Print option	What it prints
Detail Form	This prints the information entered on the form. Depreciation details in the line items are not printed.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name, and also include the file title, issue date, revision number, and file size.
Record Attachments > Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.

To print an asset form with a custom print layout

1   Open the asset form that you want to print. Be sure it is in a view mode.

2   From the **File** menu, choose **Print Preview > Custom**. The Custom Format Print window opens. The window lists custom layout options set up by the administrator.

3   Select a layout and click **Ok**. The File Download window opens.

4   Choose to **Open** or **Save** the file, which is a Microsoft Word DOC file.

5   Open the file in Microsoft Word and print. This feature can be used with Microsoft Word 2003 and 2007.

13   SPACE MANAGER

In this chapter

‣ *Working with levels and spaces*
‣ *Creating Space Manager sheets*
‣ *Working with the uCAD plug-in*
‣ *Creating stack plans*

OVERVIEW

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ABOUT THE SPACE MANAGER

In Unifier, the Space Manager is where users can perform the tasks of facilities management. The Space Manager integrates the AutoCAD® application to provide drawing and modeling capabilities for your architectural, layout, and design needs.

> The Space Manager is only available to shells; it cannot be used for standard projects.

Using the Space Manager, users can gather data about the levels in their facility (such as floors and parking lots) and the spaces that exist on each level (cubicles, offices, conference rooms, etc.). Each level is supported by an AutoCAD® drawing. Users can enter individual spaces into Unifier, or directly onto an AutoCAD® drawing and classify them into categories (such as common areas, or usable space) to make managing them more efficient. Similar to the Asset Manager, you can create categories (called *types*) of spaces in uDesigner, and Unifier users can add records of individual spaces to these types and manage them on an electronic sheet.

The Space Manager is a means of organizing all the square footage in your facility to make monitoring, maintaining. You can integrate the Space Manager with other managers or business processes to give users a broader view of your company's physical capital and resources. For example, you can integrate the Space Manager with the Asset Manager to include the computers that reside in each cubicle on a level; or integrate the Resource Manager to include the employees who occupy each space on a level.

In uDesigner, you will be creating one attribute form for a "level" type in your facility and multiple attribute forms for "spaces" types. With these attribute forms, Unifier users can create a hierarchy of levels and spaces within levels to store the facilities data you choose to collect.

> In the Space Manager, think of a **level** as the "platform" on which spaces reside.

In Unifier, the **Sheets** node in the Space Manager stores the manager sheet on which all the levels in your facility are shown. Unifier automatically creates a level sheet for every level type that is created. On these sheets, Unifier users can import and export drawing files to and from AutoCAD®, and also import and export column data. From the level sheet, users can also automatically update individual level records with data added to the sheet, either manually or via a formula created for a column.

The **Stack Plans** node is where users can create stack plans to show the actual usage of the levels in the company's building(s). Users can choose the information (data elements or specific spaces) they want to see on the stack plan and update the plan periodically to keep abreast of changes in the levels' space usage. For example, users might want to know the square footage used by each department on each floor (level); or how many square feet of a floor are vacant versus leased.

The **Levels** node lists all the levels that exist in your facility. Each level is supported by an AutoCAD® drawing. This node is where users can create new levels or update existing ones, download drawing files, add spaces to the level, attach a drawing to the level, and print the drawing. This is where users can create new levels or update existing ones, import data from CSV files, export templates to CSV.

The **Spaces** node shows a list of all the space types, and under the space type sub-node, all the spaces that exist in your facility. This is where users can create new spaces or update existing

ones, import data from CSV files, export templates to CSV, and select spaces to view on the level drawing.

The Space Manager allows you to identify floors and each space by type and associate attributes to the particular spaces. For example, a multifloor building could have many types of spaces, such as offices, cubicles, restrooms, conferences room, laboratories, and eating areas.

You manage spaces according to space type. Examples of space types are:

• Gross measured area, which is the entire square footage of a floor, from wall to wall
• Common area, such as hallways, lobbies, and entrances
• Usable space, such as cubicles, offices, and conference rooms
• Vertical penetration, which includes elevators, stairwells, and columns

The Space Manager is available within a shell. Each shell can have only one Space Manager. A building is at the shell level. An example hierarchical arrangement of objects in the Space Manager is as follows:

• Buildings (shell level)
    • Levels (Floors) of the building or other similar structures (in this case, *Floor* is an example of a level record)
        • Spaces in the building. These are the various spaces in the structure, such as storage rooms, offices, and other interior spaces (space records). Spaces is a fixed node designed in uDesigner.

The Space Manager includes a sheet to help you manage levels and spaces. The sheet will allow you to create formulas to calculate total leasable and rentable space for a facility or building.

uCAD plug-in

Users can integrate the Unifier Space Manager with AutoCAD® using the uCAD plug-in application, which can be downloaded from Unifier. uCAD enables:

• Authoring of space objects in AutoCAD®
• Identifying spaces on a floor drawing and link them to Unifier space objects
• Associate a drawing file to a Unifier level record
• Transferring changes to level and space records between the Unifier Space Manager and AutoCAD®

Space Manager Prerequisites

• Generic or WBS shells configured
• Level and space attribute forms defined in uDesigner
• uCAD plug-in and AutoCAD® installed on your desktop (if you are going to use the Space Manager with the optional AutoCAD® integration)

The *uCAD Installation and User Guide* is also available from the Unifier Support window, on the Download tab. After you download the uCAD plug-in you can access uCAD from the Windows Start menu > Programs> uCAD. When you install the plug-in, the uClient Configurator is also installed. The *uClient Configurator Setup Guide* is available in the uClient Configurator Help menu. The *uCAD Installation and User Guide* is available in the uCAD Help menu.

- Advanced File Transfer Application, (the latest version) if the user wants to upload drawing files into Unifier
- Auto Desk® Design Review. This is required if the user wants to view the uploaded drawing files within the Space Manager window. It is a free download from http://usa.autodesk.com.

WORKING WITH THE SPACE MANAGER

Access the Space Manager

The Space Manager is available within a shell. Each shell can have only one Space Manager.

To access the Space Manager

1   In User Mode, select the shell that you are working in.

2   In the shell, select **Space Manager**. The Space Manager opens.

3   Click the appropriate node to access a level or space.

LEVELS

You use level records to levels in a building. An example of a level is a floor, a parking level, or even a parking site that contains no structure.

Create a new level record

You can create new level record manually or copy an existing record and modify it. When you create a new level record, you use a form designed in uDesigner.

To create a level record manually

1   In User Mode, in the shell, select **Space Manager > <levels>**. The levels log displays. The levels are defined in uDesigner, and are named there. For example, your levels might be called *Floors* or *Parking Levels*.

2   Click **New** to open the levels form.

3   To import a drawing file, click **Import**.

   Note: *Auto Desk® Design Review is required if you want to view the uploaded drawing files within the Space Manager window. It is a free download from http://usa.autodesk.com.*

4   To view a drawing file associated with the level record, click **Drawing**.

5   To add an attachment to the record, select **Edit > Add Attachment**. Browse to the attachment located in Unifier or on your desktop.

6   Complete the form, and then click **Finish Editing**.

Here is an example of a levels log:
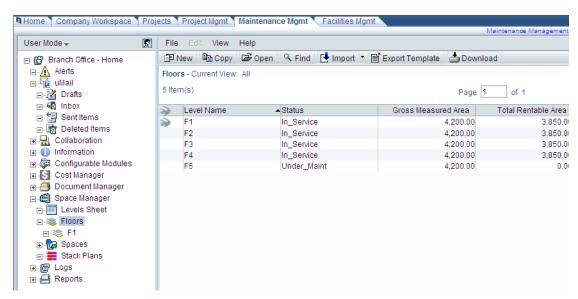
Figure 13-1 Levels log, example

To copy an existing level record

1   In User Mode, in the shell, select **Space Manager > Levels**.

2   In the level log, select a level and select **Copy > Level**. The levels form opens with the information from the original level record.

3   Modify the form as needed.

4   Click **Finish Editing** to save the new level record.

Export and import CSV level templates and records

To export a template

1   Navigate to the Space Manager levels log.

2   Click the **Export Template** button. The exported CSV template is based on the Integration interfaced design of Level that was created in uDesigner.

3   Save the CSV file to your desktop.

To modify an imported file

1   Open the CSV file in Microsoft Excel or a compatible application. You can also edit the CSV file in a text editor such as Notepad.

2   Add data to the CSV file, one record per row. Do not add, move, or delete columns or change the structure of the file.

3   Save the file.

Note: *Excel 2003 cannot handle CSV files with 15 or more rows. In CSV files, columns are separated with commas. When you open a CSV file with Excel that has empty columns at the end of the file,*

Excel drops the additional commas from the 15th row onward, resulting in an error when you try to import the file. To work around this problem, do one of the following:

- *Add your data to the CSV file in Excel and save the file. Then reopen the file in a text editor such as Notepad, find the rows that have the missing commas, and add the additional commas to these rows.*
- *Use the text editor instead of Excel to modify column values in the CSV file.*

To import CSV files or drawing files

1   In the Space Manager, select the level which you want to import the new record or drawing file. Be sure that you are importing the correct file.

   Note: *You must use the Advanced File Transfer option to be able to upload drawing files to use with the Space Manager. See* "Choose a file transfer option" on page 17 *for details.*

2   Click **Import**.

3   In the File Upload window, browse for the file and click **OK**.

Unifier checks the file for the following items to make sure that valid records are created:

- The file format of the imported file matches the interface design created in uDesigner.
- Make sure that you are importing into the same log from which you exported the CSV template file.
- The required fields contain data in the correct format.

If an error occurs, an error message gives you the option to save a text file that lists the errors.

To view the import validation error file

1   At the import error message, click **Yes**. You can then choose **Open** to open the file or **Save** to save the file to your local machine.

2   The error file is a CSV file. Click on a cell to view the full contents of the listed error.

3   After fixing the errors, you can use this file to reimport the records.

Search for a level

You can view any of the level or space records in the logs. If there are many records listed in a level or space log, you can use search criteria to narrow the options.

To search a log for a particular record

1   Select the Levels node in the Navigator.

2   Click the **Find** button.

3   Enter the search criteria. You can change the search operators (=,<,>, range, and so on) by clicking the operator link and selecting a new operator.

4   Click **Search**. The search results are listed in the log.

5   Move the Find window to view the search results. If you close the Find window, the search results are cleared.

6   You can change the search criteria and click **Search** to perform a new search.

7   Close the Find window when you are finished searching records.

To view a level record and its associated drawing

1   In User Mode, in the shell, select **Space Manager > Levels**.

2   Select a level record from log window and click **Open** button. Level record opens. You will see a node under the Levels node. This is the name of the level.

If you have not already installed the drawing viewer, you will be prompted to install it. This drawing viewer is Auto Desk® Design Review application. This application is required if you want to view the uploaded drawing files within the Space Manager window. It is a free download from http://usa.autodesk.com.

To view drawings, you must install the Unifier DWF Viewer Add-on:
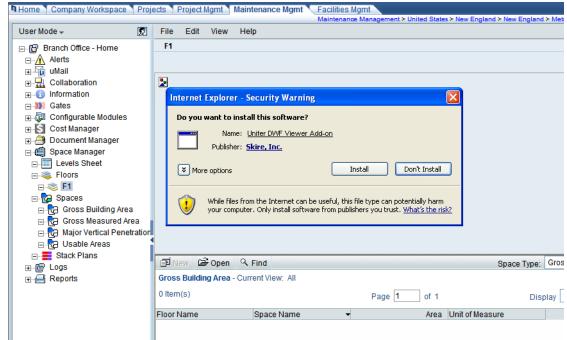
Figure 13-2 Message prompt for drawing viewer installation

3   You can use the **More Options** button to view installation options.

Figure 13-3 Install options

4 Click **Install** to install the drawing viewer add-on.

5 To view the associated drawing file, click **Open**. Right side of the window will have two sections:

- Top section is reserved to show the drawing file associated with the level record. If nothing is associated then a text will be displayed that drawing is not available.
- Bottom section will show list of space records that are associated with current level record that is opened. Bottom section that lists space records is pre-filtered by space type. If you want to view records from other spaces types, use **View** drop-down menu.
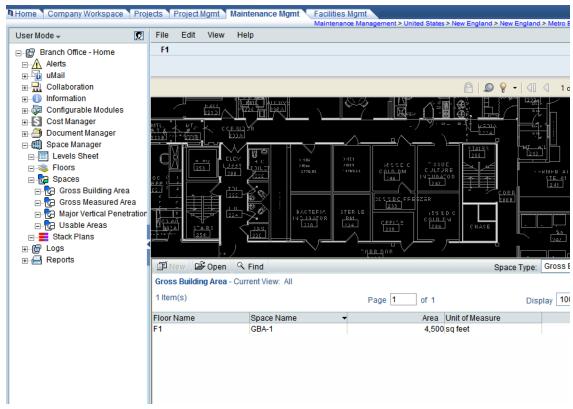
Figure 13-4 Drawing file, example

6   To view detail for the level that is current selected, click **Details**.

7   Click the **Spaces** button at the top to view all spaces that are associated with the level that is currently opened.

To filter space types in a level record

1   In User Mode, in the shell, select **Space Manager > Levels**.

2   Select a level.

3   Click **Open** or **Details**.

4   Select a space type in the **Space Type** drop-down menu to filter the space objects.
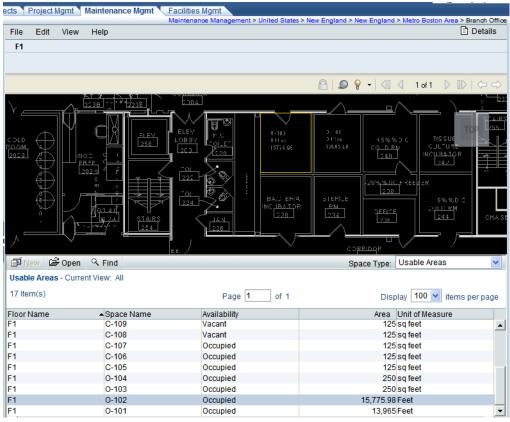
Figure 13-5 Example of filtering by Space Type (Usable Areas)

To highlight space records in a level record on a drawing

> **Note:** *This is only available if there is a drawing file associated with level record and user used uCAD to author space objects in* AutoCAD[®].

1   In User Mode, in the shell, select **Space Manager > Levels**.

2   Select a level.

3   Click **Open**.

4   Select a space record from the bottom of the window. If the space record selected is associated with drawing using uCAD then it will be highlighted.
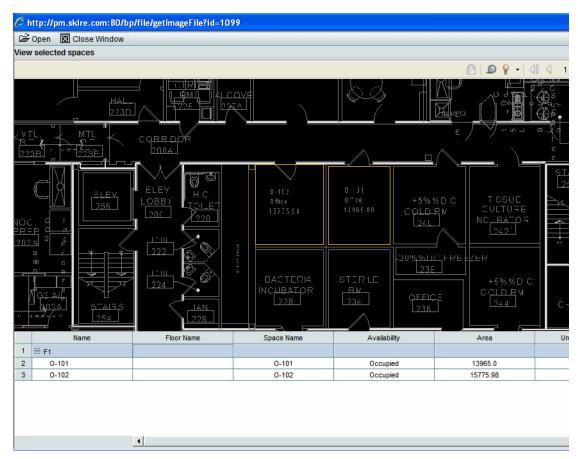
Figure 13-6 Example of highlighted spaces on a drawing

To open a space record from a level

1   In User Mode, in the shell, select **Space Manager > Levels**.

2   Select a level.

3   Click **Open**.

4   Select a space record in the bottom portion of the window.

5   Click **Open**. The detail form for the selected space record opens.

You can highlight the entire floor and view all available spaces.
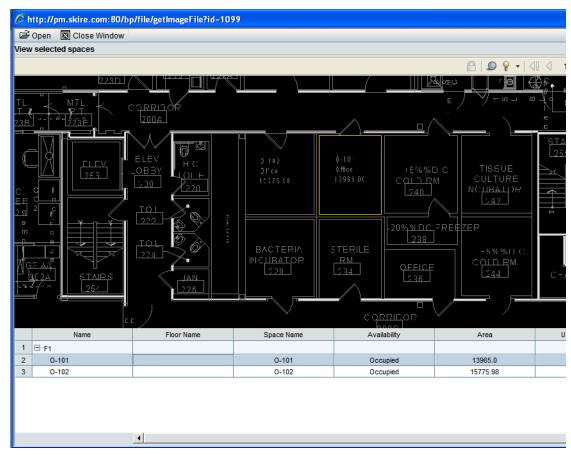
Figure 13-7 Floor highlighted

SPACES

Create a new space record

You can create new space record manually or copy an existing record and modify it. When you create a new space record, you are using the form designed in uDesigner to create an instance of the space and assigning it to a level and adding contents. This creates a unique record of the space for the various levels in the building.

To create a record manually

1   In User Mode, in the shell, select **Space Manager > Spaces** > ***<space>***, where <space> represents a usable space, such as an office, or store room. The Space log displays. The various space types are defined in uDesigner.

2   Click **New** to open the spaces form. The form is designed in uDesigner.

3   Complete the form, and then click **Finish Editing**.

This is an example of a space log:

File	Edit	View	Help					
New	Copy	Open	Find	Import ▾	Export Template	View On Drawing		

Usable Areas - Current View: All

11 Item(s)   Page 1   of 1   Disp

Floor Name	▲Space Name	Availability	Area	Unit of Measure	
FL-1	Room-207A		13,509	Feet	
FL-2	Room-207K		12,654	Feet	
FL-2	Common-1-FL-2		111,442.69	Feet	
FL-2	Room-207L		12,654	Feet	
FL-2	Room-207B		13,509	Feet	
FL-2	Room-207A		13,509	Feet	
Floor - 1	Room 101		250		
Floor - 1	Room 102		250		
Floor-2	Room 201		125		
	Room-207B		13,509	Feet	
	Room-207A		13,509	Feet	

Figure 13-8 Space log, example

To copy an existing space record

1   In User Mode, in the shell, select **Space Manager > Spaces**.

2   In the space log, select a space and select **Copy > Space**. The form opens with the information from the original space record.

3   Modify the form as needed.

4   Click **Finish Editing** to save the new space record.

Work with space records

To open a space record

1   In User Mode, in the shell, select **Space Manager > Spaces > *<space type>*** to select a space record.
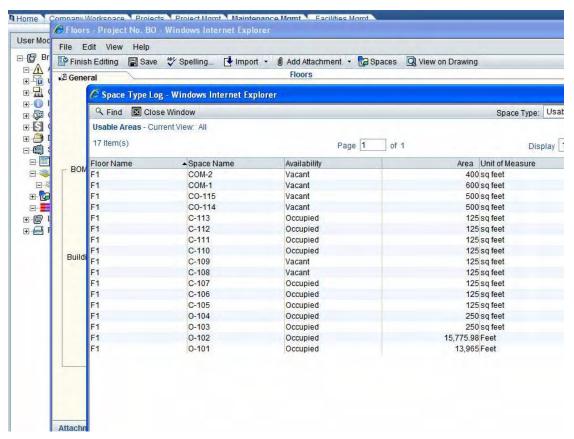
Figure 13-9   Space type log

2   Select a space record.

3   Click **Open**.

4   You can view the space content from the space record by clicking **Space Content**.
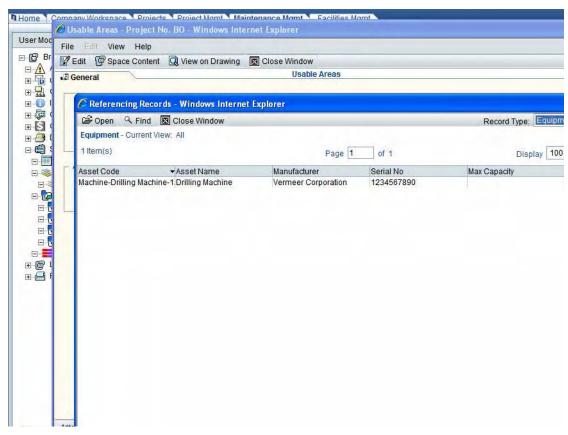
Figure 13-10 Space content

To export a space CSV template

1   In User Mode, in the shell, select **Space Manager > Spaces > *<space type>***.

2   Click **Export Template**. Follow the steps in "To export a template" to export and modify the space template. **Export template** will export a CSV file based on the integration design of space type defined in uDesigner. This can be used to create space records through CSV instead of manually creating by clicking **New**.

To import a CSV file

1   Modify the CSV file as needed.

2   In the Space Manager, select the log into which you want to import the new record. Be sure that you are importing the correct file.

3   Click **Import**.

4   In the File Upload window, browse for the file and click **OK**.

Unifier checks the file for the following items to make sure that valid records are created:

• The file format of the imported file matches the interface design created in uDesigner.

• Make sure that you are importing into the same log from which you exported the CSV template file.

    • The required fields contain data in the correct format.

If an error occurs, an error message gives you the option to save a text file that lists the errors. For information on viewing the error file, see "To view the import validation error file" on page 573.

To view a space on a drawing

1   In User Mode, in the shell, select **Space Manager > Spaces > *<space type>*** to select a space record to open Details.

2   Click **View on Drawing**. The View on Drawing window opens with the selected spaces highlighted on the drawing. This is only available if there is a drawing file associated with level record and user used uCAD to author space objects in AutoCAD®.

> **Note:** *Auto Desk® Design Review is required if you want to view the uploaded drawing files within the Space Manager window. It is a free download from http://usa.autodesk.com.*
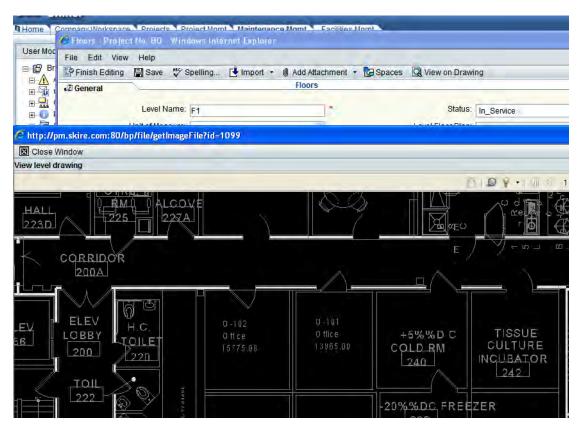
Figure 13-11 View level drawing

The space record is an instance of a space type. The space types are designed in uDesigner. A space type might be called *Office*, and the space record (instance of the type) might be called *O-101*, for example.

LEVEL SHEETS

The Space Manager includes a sheet to help you manage levels and spaces. The sheets allow you to create formulas to calculate leasable space and other related information in a building. You can create level sheets for a Space Manager. You can create one level sheet per template you copy. You can create only one sheet per shell.

Access Level Sheets

The level sheet is listed in the Level Sheets log in the Space Manager.

Note: *You must have permissions to access a sheet.*

To open a level sheet

1. In User Mode, navigate to the Space Manager in a shell and select **Level Sheets**. The Level Sheets log opens.

2. Select the sheet in the log and click **Open**.

The Properties window for the level sheet contains the name and display options.

To open the Level Sheet properties window
In the Level Sheets log, select the sheet and click **Properties**.

Create a level sheet

To create a level sheet

1. In User Mode, navigate to the Space Manager in a shell and select **Level Sheets**.

2. In the Level Sheets log, click **Copy > Template**.

3. Select the template to copy and click **Open**. The Levels Sheet Properties window opens.

4. Enter an optional description. You cannot change the sheet title.

5. Choose whether to include all levels on the sheet or just levels with selected statuses.

6. Click **OK**.

Here is an example of a level sheet:
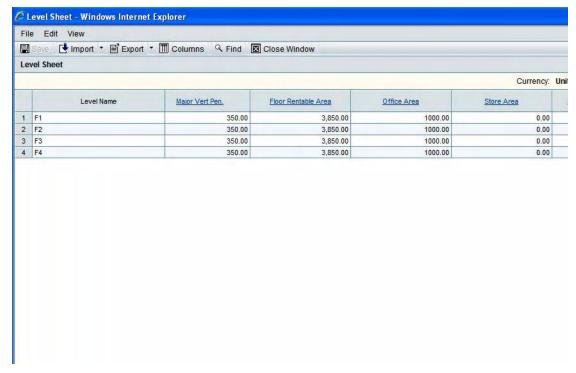
Figure 13-12 Level sheet, example

To add columns to a level sheet

1 In User Mode, navigate to the Space Manager in a shell and select **Level Sheets**.

2 Select the level sheet, and click **Open**.

3 Click **Columns**. The Columns Log window opens.

4 Click **New**. The Column Definition window opens.

5 In the **Datasource** drop-down menu, select the data element to use. The list includes the data elements found on the level form.

6 For **Entry Method**, choose how information is entered in the column. The choices depend on the data source selected.

7 For **Data Format**, select the format for numeric columns. The options are:

- **Show as Percentage:** Displays data in percentage. For example, if 0.25 is entered, it displays as 25%.
- **Decimal Places:** Select the number of decimal places to display.
- **Use 1000 Separator (,):** Data is formatted using separators. For example, one thousand is displayed as 1,000 with a comma, not 1000.
- **Negative Number Format:** Select how negative values are displayed: with a negative sign or in parentheses.

8 For **Display Mode**, select **Hide** to make the column invisible to users or **Show** to display it.

9 For **Total**, select what is shown in the bottom summary row for each column. The options are:

- **Blank:** Summary row is blank.
- **Sum of All Rows:** Displays the sum total of all row values for this column.
- **User Formula Definition:** Displays the result of the formula entered in the Formula field.

10 For **Average**, select **Blank** or the average of all rows.

11 For **Column Position After**, select a column from the list to specify its position on the sheet.

12 Click **OK**.

Copy data to another column

You can copy data from one manual entry column to another.

To copy data from one column to another

1 Select **Edit > Copy > Column Data**. The Copy Column Data window opens.

2 Select the column to copy from, the percentage value, and the column to which to copy.

3 Click **Copy**.

Search for levels on a level sheet

To search for levels

1 Open the level sheet.

2 Select **View > Find**. The Find window opens.

3 Select the search criteria:

- **Column:** Choose a column from the asset sheet.
- **Value:** Enter a value to search.
- **Search:** Select the direction to search from the selection on the sheet.

4 Click **Find Next** to search for the entered value. You can click again to continue searching.

5 Click **Cancel** to cancel the search.

Export and import CSV files

To export a sheet

1 In User Mode, in the shell, select **Space Manager > Levels Sheet**.

2 Select a sheet, and click **Export**. Follow the steps in to export and modify the template.

To import a CSV file

Follow the steps in .

Create and view a snapshot

You can save a snapshot of a level sheet.

To save a snapshot

1 Open a level sheet.

2 Select **File > Create Snapshot**. The Create Snapshot window opens.

3 Enter a title and click **OK**.

To view a saved snapshot

1 Open the level sheet.

2 Select **View > Snapshot Log**. The Snapshot log opens.

3 Select the snapshot from the list and click **Open**. A read-only view of the level sheet opens, displaying the sheet data at the time of the snapshot.

CREATING STACK PLANS

A stack plan is a two-dimensional graphical display of facility or building data. Usually, these graphs display area calculations by different attributes (for example, rented, leased, vacant, occupied by a tenant). Stack plans allow you to view area information across all building levels or floors based on defined attributes. Stack plans display only space records. You can create a stack plan under a shell. If you have permission, you can create and modify stack plans.

To create a stack plan

1 In User Mode, select **<shell> > Space Manager> Stack Plans**.

2 Click **New**. The Properties window opens.

3 In the **General** tab, enter the stack plan name, an optional description, and specify whether to include all levels or levels with select statuses.

4 In the **Options** tab, select the space type, and whether to stack by selected space type or by a data element. You can add a condition to filter the number of space records included in the stack plan calculation. The stack plan calculation logic sums up the values from the uuu_sp_area data element used on the space-type detail form.
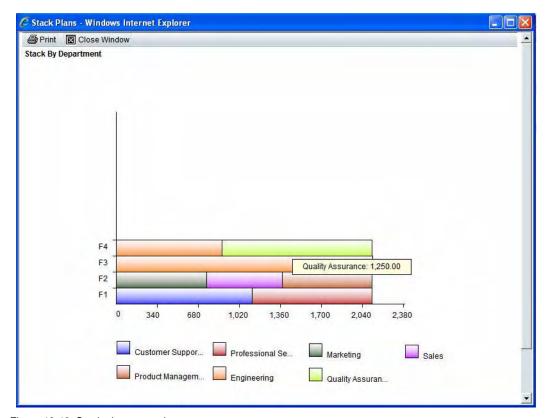
5 Click **OK**.

Figure 13-13 Stack plan, example

WORKING WITH THE UCAD PLUG-IN

ABOUT THE UNIFIER UCAD APPLICATION

Unifier uCAD is an AutoCAD® plug-in: a desktop client application that allows space managers to graphically define levels/floors and spaces based on customer-specific space definitions and details. It works in conjunction with Unifier's Space Manager module and provides a seamless integration between AutoCAD® and Unifier.

Installing and configuring uCAD provides the following capabilities:

- Dynamic level and space data creation and updates between Unifier and AutoCAD®.
- Ability to integrate with multiple Unifier environments by leveraging the connections created under uClient Configurator.
- Link uCAD space objects and polylines with Unifier's Space Manager Levels and Space records.
- Ability to associate attributes to drawing objects to designate their space location.
- Ability to publish AutoCAD® drawings with uCAD Space information to Unifier, and ability for Unifier users to view these drawings without the need for the native AutoCAD® application on your desktop.
- Ability to keep uCAD's Space and Level attribute form designs in synchronize with Unifier via an Auto Synchronize feature.

In addition, your desktop system must have one of the following supported AutoCAD® versions:

- AutoCAD® 2004, AutoCAD® 2005, AutoCAD® 2006, AutoCAD® 2007, AutoCAD® 2008 or AutoCAD® 2009

To upload drawing files for use with Space Manager, you must also install the Unifier File Transfer Application, and choose Advanced as your File Transfer option. (The File Transfer options are found in the Unifier User Preferences window. The File Transfer Application plug-in and installation instructions are found in the Unifier Support window, Download tab. For more details, see the *Unifier User Guide*.)

Note: *The uCAD Application and uClient Configurator are installed locally and run as client-side applications on your local system. If you access Unifier from a different computer where you have not installed these applications, and attempt to upload, download or attach files, you will be presented with an error. You must install uCAD and uClient Configurator on each computer on which you intend to use the functionality.*

INSTALLING THE UCAD PLUG-IN

See the *uCAD Installation and User Guide*, which is available in the uCAD Help menu. After you download the uCAD plug-in you can access uCAD from the Windows Start menu > Programs> uCAD. The *uCAD Installation and User Guide* is also available from the Unifier Support window, on the Download tab. When you install the plug-in, the uClient Configurator is also installed. The *uClient Configurator Setup Guide* is available in the uClient Configurator Help menu.

CONFIGURING UCAD

After installing uCAD, you can configure it. This consists of the following:

- View uCAD connections. These connections are maintained in the uClient Configurator.
- You can optionally configure uCAD to automatically synchronize with your AutoCAD®
  designs.

To open the uCAD Configurator window

From the Windows Start button, click **Start > uClient > uCAD > uCAD Configurator**. The uCAD Configurator window opens, listing the connections and import options for your implementation.

Figure 13-14 uCAD menu

About the connections

uCAD connects to Unifier to download level-type and space-type design definitions (the properties of which correspond to the attribute forms you designed in uDesigner for the Space type and Level type records). These designs must be imported into Unifier before uCAD can take advantage of them. (Refer to the *uDesigner User Guide* and *Unifier Administration Guide* for instructions on how to design and import these forms into Unifier).

The connections between uCAD and Unifier are setup in the uClient Configurator.

To view connection details

1 Open the uCAD Configurator window.

2 Click on each connection listed in the window. This displays the connection name and details, and the last date designs were imported.

   These connections are created and maintained in the uClient Configurator.

To access uClient Configurator and create connections

1 If you have not already done so, you must create the connections in uClient that will be used by uCAD. From the Windows Start button, click Start > uClient > uClient Configurator. The uClient Configurator window opens.

2 For details about setting up connections in the uClient Configurator, click the Help menu and download the *uClient Configurator Setup Guide.*

About Auto Synchronization

uCAD enables you to integrate your AutoCAD® drawings with Unifier's Space Manager. In order to do this, you must first import Space Manager designs into uCAD. These designs include level type, space types, and the data elements on the Space Manager attribute forms that have been enabled for uCAD Integration in uDesigner.

This import process can be done manually, or you can choose the uCAD Auto Synchronization option. When this option is enabled, uCAD will check for any new space types that have been imported into Unifier from uDesigner, or any changes to the data elements enabled for uCAD Integration in existing level or space types.

With Auto Synchronization is enabled, uCAD tries to connect to Unifier when you open a drawing file that was previously set up with a connection to check if there have been any changes to the design. This is done in the background. If the application detects changes, you are asked if you want to import them into Unifier. If you ignore the message, you can continue working with the drawing file. If you accept the changes, close the drawing file so that uCAD can rebuild the menu structure and map data to the new imported design.

If you choose not to enable Auto Synchronization, you must manually import any new designs.

To enable auto synchronization of drawing file changes between AutoCAD® and Unifier

1   Open the uCAD Configurator window, and select the **Connections** node.

2   Click the **Edit** button.

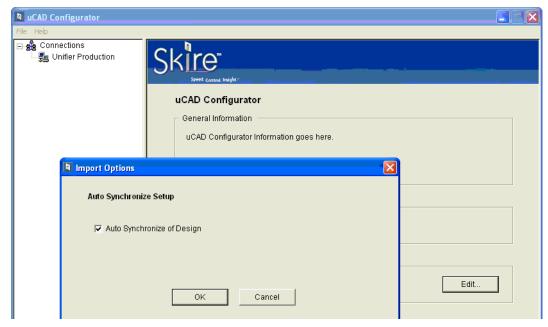3   Select Auto Synchronize Design and click **OK**.

Figure 13-15 Auto Synchronize Setup window

To manually import Space Manager design for the Levels and Space types

1   Open the uCAD Configurator window.

2   Click on a connection listed in the **Connections** node.

3   Click the **Import** button.
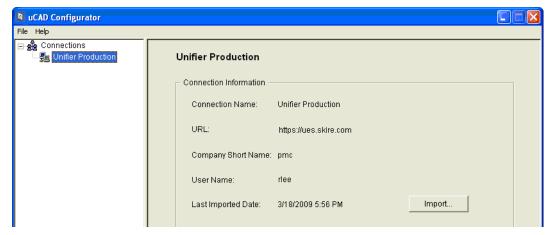
Figure 13-16 uCAD configurator - import designs

WORKING IN AUTOCAD® WITH THE UCAD PLUG-IN

Below is an overview of how uCAD integrates your AutoCAD® drawings with Unifier's Space Manager.

How it works

- Before you can use the uCAD plug-in with AutoCAD®, the Space Manager attribute forms for the Level definition as well as Space types should have been designed in uDesigner and imported into Unifier. In uDesigner, you create one Level type form, and any number of Space type forms. As part of the design process, you also specify which data elements to use to integrate with uCAD (this is done in the Integration > uCAD node in uDesigner). For example, for Level integration, at a minimum, you should include the Level name and Status. For Spaces, you should include Space Name, Area, and Level Picker. (Details about Space Manager designs are found in the *uDesigner User Guide*.)

- Import the attribute forms into Unifier. Activate them in the Configuration. See the *Unifier Administration Guide* for Space Manager setup details.

- Install the uCAD plug-in for AutoCAD®, and establish connections in uClient. A Unifier menu is now available your AutoCAD® menu bar.
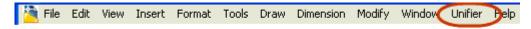
Figure 13-17 AutoCAD® *menu bar*

- Open the drawing file in AutoCAD®. It is assumed that the drawing file will correspond to a *level*, for example, each floor of a building, which in turn corresponds to a level type record in Unifier.

- Import the Unifier designs into uCAD. You can do this manually, or choose to enable automatic synchronization. This process imports level and space type details (specifically, the level type, all space types, and the data elements that have been enabled for uCAD integration in uDesigner for those level and space types) into uCAD.

- Set up a new AutoCAD® drawing for use with uCAD. This needs to be done only once for each drawing.

- You can now work with uCAD to create level and space objects on the drawing. Link them to uCAD.
- Import the drawing file into Unifier Space Manager. Level or space objects linked to uCAD will create level and space records in Unifier.

IMPORTING THE UNIFIER SPACE MANAGER FORM DESIGNS INTO UCAD

Import or Auto Synchronize Level and Space Form designs

The first step is to synchronize the Level and Space types attribute form designs from Unifier to uCAD. You can do this manually, or by auto synchronization.

See "To enable auto synchronization of drawing file changes between AutoCAD® and Unifier" on page 591 for details on enabling auto synchronization. If the Auto Synchronization is enabled, then uCAD will attempt to create a connection to Unifier and automatically import Space Manager design information.

To manually import Space Manager designs for the Levels and Space types

1   Open the uCAD Configurator window.

2   Click on a connection listed in the **Connections** node.

3   Click the **Import** button.
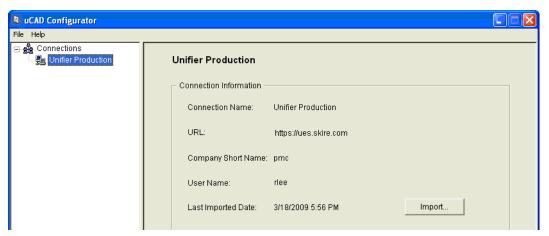
Figure 13-18 Import levels and spaces

Set up an AutoCAD® *drawing for use with uCAD*

For each new drawing that you want to use with uCAD, you must choose which connection to use for that drawing. (These are the connections you added in uClient.) This setup only needs to be done once per drawing.

To set up an AutoCAD® drawing for use with uCAD

1   Start AutoCAD® and open the drawing file that you want to use with the Space Manager.

2   On the AutoCAD® menu bar, click the **Unifier** menu, and select **Setup uCAD**.

3   In the Setup window, select a connection. The URL and company name associated with the connection name are populated.

4   Click **OK**.

Figure 13-19 uCAD Setup window

The following additional options are now available under the Unifier menu:

Figure 13-20

- **Create or Modify <Level type>:** Allows you to associate a drawing with a Space Manager level. In the above example, *Floors* was the name given in uDesigner to define the level type.
- **Create Spaces:** Allows you to create a new space object. The sub-menu lists all of the available space types as defined in uDesigner.
- **Establish Link:** Allows you to link existing AutoCAD® polylines to uCAD space records.
- **View or Modify Spaces:** Allows you to list or modify all spaces defined on this drawing.

The levels type and space types displayed under the Unifier menu are based on the Space Manager designs created in uDesigner, imported into a Unifier environment, and associated with the connection selected in the Setup uCAD window.

Associate a drawing file with a Level

Any drawing file that will be used with Unifier's Space Manager needs to be associated with a Level record. Each Level record in the Space Manager is eventually associated with an AutoCAD® drawing file.

To associate a drawing file with a level record

1 In AutoCAD®, select **Unifier > Create or Modify <level type>**. The <level type> form opens. In this example, the level type name that was designed in uDesigner is Floors.
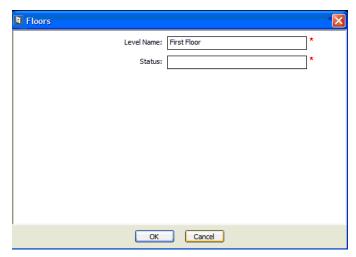
Figure 13-21 Level type window

2 The data elements displayed on this Level form are controlled by the data elements added to the uCAD integration interface design in uDesigner. This form and its content is based on the selected connection (that is, the Unifier environment from which the designs were imported) while setting up this drawing file.

> **Note:** *If pulldown or picker data elements have been added uCAD integration, they will display on the form as text entry fields. You must enter a valid value. For example, if you have a Department pulldown field, you must type a department name exactly as it appears in the Data Set value for that pulldown data definition in Unifier.*

3 After completing the form, click **OK**. The drawing file is now ready to be associated with a level record. This level record will either be created new, if never created before, or updated with new data if this level and associated drawing has not yet been imported into the Space Manager in Unifier.

Create new space objects or link existing spaces

The next step is to create space objects. You can create spaces in AutoCAD® using uCAD. Each space object is dynamically linked to an AutoCAD® polyline entity during creation. You can also link existing AutoCAD® polylines to uCAD space objects. For example, if you have a space type called Common Areas, you might define individual spaces for each restroom, hallway, or reception area. You will then associate each of these spaces with the Common Areas space type, and give each space a unique name.

Linking a uCAD space object to a polyline provides these benefits:

• The area of the polyline is automatically calculated, and the space object associated with it is updated.

- Once a drawing file has been imported into Unifier's Space Manager, the system can dynamically create new space records that are associated with the uCAD space object or update existing spaces with new space data.
- In Unifier, spaces can be viewed or highlighted in Unifier's Space Manager when searching or selecting a space record.

When you import the drawing file into Unifier, these become space records. You control the information to capture with that space record, such as the space name, the area, the unit of measure (such as square feet). These are based on the attributes that were designed in uDesigner for each space type.

To create space objects, you can create a new object in AutoCAD® using polylines, or you can link existing polylines to uCAD.

Create a new space object using polylines

With this procedure, you are create a new space object on the drawing using polylines (conference room, office, or hallway, for example). These new spaces will create new space records automatically in Unifier for the corresponding level.

To create a new space object using polylines

1   In AutoCAD®, open the drawing that you want to add spaces to. Be sure that the drawing has already been set up to work with uCAD (see the instructions above).

2   Select **Unifier > Create Spaces > <space type>**.

3   Select a space type. In the example below, *Usable Areas* space type is selected.

Figure 13-22 AutoCAD® *menu example*

4   Draw the boundaries of your space. When you have defined the space boundaries and completed the space by closing the polyline or by pressing **Enter**, the space form opens.
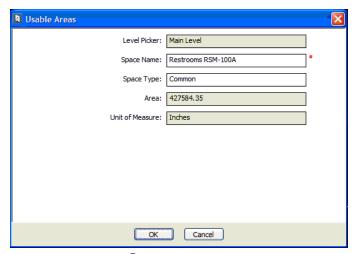
Figure 13-23 AutoCAD® *space window*

5 Complete the form.

The data elements displayed on this space form are those that were added to the uCAD integration design in uDesigner. This form and its content is based on the selected connection (that is, the Unifier environment from which the designs were imported) while setting up this drawing file.

In the example shown above, the Usable Areas space type form is show. Notice that the Area for this Usable Area space is pre-calculated based on the space boundaries defined on the drawing.

Note: *If pulldown or picker data elements have been added uCAD integration, they will display on the form as text entry fields. You must enter a valid value. (For example, if you have a Department pulldown field, you must type a department name exactly as it appears in the Data Set value for that pulldown data definition in Unifier.)*

6 Click **OK**.

The space polyline is now created and linked to the uCAD space object. Notice the space tag that has been placed in the middle of the space on the drawing reflecting the space Name, Type, and Area. These data elements are defined for the space type (Edit Studio window, Options tab; refer to the *uDesigner User Guide*).

Figure 13-24 Sample AutoCAD® *drawing*

<u>**Link an existing space to an existing polyline**</u>

You can also dynamically link an existing space (that already exists as a space record in Unifier) to a polyline on the drawing.

To link an existing space object to an existing polyline

1   In AutoCAD®, open the drawing.

2   Click the Unifier menu and select **Establish Link >** *space type*. In this example, the space type is Major Vertical Penetration.
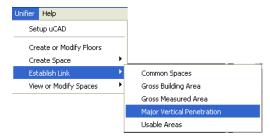
Figure 13-25 Menu showing Establish Link

3   Double-click a polyline space in the drawing. You can select only one polyline. The Space Type window opens, listing all the space objects of the selected type.

4   Select a space object from the list and click Link. If the space object already has a link, a message displays telling you to first unlink the object before establishing a new link.

5   When the link is established, click **OK**.
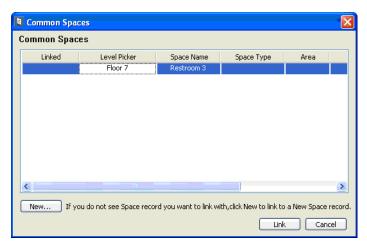
Figure 13-26 Link window

Add a new space object to an existing polyline

You can also create a new Unifier space record by linking to an existing polyline.

To link an new space object to an existing polyline

1   In AutoCAD®, open the drawing.

2   Click the Unifier menu and select **Establish Link > *space type***.

3   Double-click a polyline space on the drawing. You can select only one polyline. The Space Type window opens, listing all the space objects of the selected type.

4   Click **New** to create a new space object. The Space form opens.

5   Enter the data for the new space object.

6   Select the new space object from the list and click **Link**.

7   When the link is established, click **OK**.

Work with space objects in a drawing

You can view and work with all space objects that are available in uCAD.

View a space object that is linked to a polyline

To view a space object that is linked to a polyline on a drawing

1   In AutoCAD®, open the drawing.

2   Click the Unifier menu and select **View > *space type***. The Space Type window opens, listing the space objects for the selected space type.

3   Select one or more space objects from the list.

4   Click **Show on Drawing**. The linked polylines are highlighted in the drawing. The Space
    Type window remains open, so you can look for other space objects in the drawing. The
    drawing pans to show multiple polylines.

Open a space object

This opens the space object so that you can make changes to the data element fields.

To open a space object

1   In AutoCAD®, open the drawing.

2   Click the Unifier menu and select **View >** *space type*. The Space Type window opens, listing
    the space objects for the selected space type.

3   Select a space object from the list and click **Open**. The Space Object window opens.

4   You can view or modify the data for the space object.

5   Click **OK**.

Delete a space object

This procedure will remove the between a polyline and the Unifier space record, and remove
the space object from the drawing. You can also optionally remove the polyline. This procedure
will not delete space records from Unifier.

To delete a space object

1   In AutoCAD®, open the drawing.

2   Click the Unifier menu and select **View >** *space type*. The Space Type window opens, listing
    the space objects for the selected space type.

3   Select a space object from the list and click **Delete**.

4   Choose one of the following:
    • **Space Record and Polylines:** Deletes the space record and the polyline from the drawing.
    • **Space Record Only:** Deletes the space record from the drawing but leaves the polyline.

5   Click **OK**.

De-link a space object

You can de-link a space object record from a polyline.

To de-link a space object

1   In AutoCAD®, open the drawing.

2   Click the Unifier menu and select **View >** *space type*. The Space Type window opens, listing
    the space objects for the selected space type.

3   Select a space object from the list and click **Delink**.

4   Click **Yes** to confirm.

WORKING WITH DRAWING FILES

You can import drawing files into Unifier from a level log or from a level record. You can download drawing files as well.

MANAGING DRAWING FILES THAT HAVE REFERENCE FILES

If a level drawing has reference files, you must put all polylines and space objects on the base level drawing file and not on the reference files. Unifier Space Manager cannot process reference files for space objects.

Import drawing files into Unifier

You can import DWG files into Unifier.

Note: *The File Transfer option must be or Advanced. Otherwise, you receive an error message to change the File Transfer option.*

The uCAD plug-in must be installed on the machine from which you import the drawing files. If uCAD is not installed, you receive a message to install it.

To import drawing files into Unifier

1   Add files to upload and click **Upload**. The Drawing Files window opens.
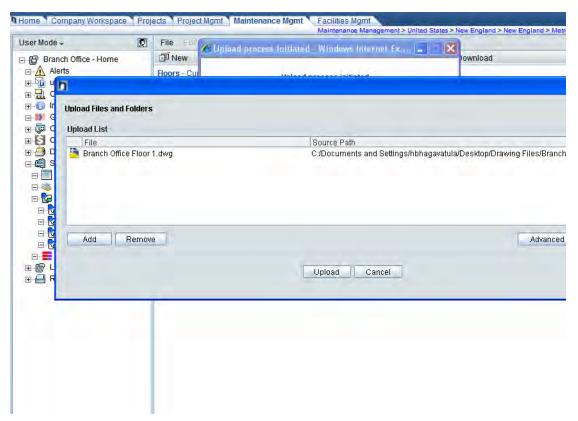
Figure 13-27 Upload drawing file

2   Click **Process** to process the drawing file. Click **Remove** to remove one or more drawing files from the list.You receive a confirmation message that the files are being processed. You are notified by e-mail when the processing is complete.
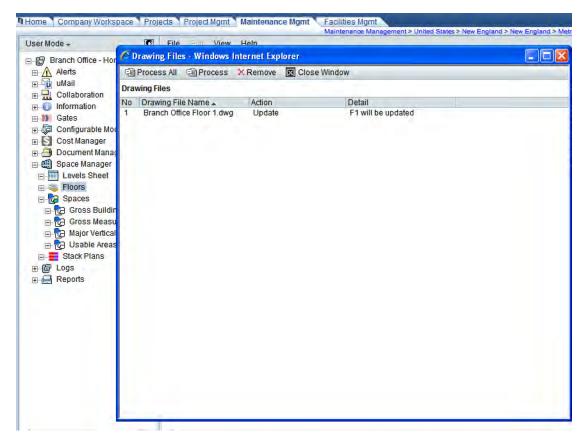
Figure 13-28 Process drawing file

To get the most recent import information
After the drawing files are uploaded, Unifier generates a drawing processing log.

1   In User Mode in Unifier, select **<shell> > Space Manager > Levels**.

2   Select **View > Last Import Log**. The Last Import Log window opens, listing who performed the import, the date and time of the import, and the drawings that were imported. This log is always updated to show the last import. It does not contain history of imports over time.

Import a drawing file from a levels record

You can import a drawing file from a level record if you have create permission on the Levels log. You can import one drawing file per level. You cannot import when the record is still in Draft mode.

Processing a drawing file from a level record is similar to processing files from the Levels log. See "Import drawing files into Unifier" on page 601 for details.

Download drawing files

You can download drawing files from the Levels Log window.

To download drawing files

1   In User Mode in Unifier, select **<shell> > Space Manager > Levels**.

2   Select one or more level records from the Levels Log window and click **Download**.

14 CONFIGURABLE MANAGER

In this chapter

‣ *About Configurable Managers*
‣ *Working with a code and records-based Configurable Manager*
‣ *Working with a code-based Configurable Manager*
‣ *Printing configurable manager records*

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ABOUT CONFIGURABLE MANAGERS

Configurable Managers have flexible coding structures that allow you to analyze your data. Configurable Managers are created and named in uDesigner depending on the intended task. They can be created at the shell, project, or company level. They provide additional functionality and do not replace existing managers. A Configurable Manager behaves like any other module in the application. You can have up to 25 Configurable Managers.

Note: *This chapter uses a Parts Manager and Facilities Manager as examples. The Configurable Managers that you are working with will have different names and purposes.*

There are two types of Configurable Manager: code- and record-based and code-based.

CODE- AND RECORD-BASED CONFIGURABLE MANAGERS

A code- and record-based Configurable Manager allows you to define codes and capture data using records. This type of manager allows multiple classes of sheets and records to be created, each with it own coding structure.

For example, a Parts Manager could be created to do the following:

• Categorize parts by type (or class) by creating records for classes
• Track inventory at various locations
• Maintain basic cost information
• Track parts transactions (bought, sold, received, or shipped)
• Monitor costs generated by transactions

CODE-BASED CONFIGURABLE MANAGERS

A code-based Configurable Manager also allows you to define codes, but it works with sheets to analyze information generated manually or from BPs. All the data is consolidated in one sheet.

For example, a Condition Assessment Manager could be created to do the following:

• Define a building systems code structure at the company level, project level, or shell level
• Design multiple BPs to track and calculate:
    • Maintenance requirements
    • Inspections
    • Work orders
    • Repairs
    • Cost of maintenance
    • Deficiency costs
    • Renewal costs
• Various indices, such as a facility condition index, to monitor the condition and usability of facilities

WORKING WITH CONFIGURABLE MANAGERS

Configurable Manager modules are designed in uDesigner and configured by your company administrator.

Note: User permissions are granted per class or sheet. If you cannot view any part of the Configurable Manager to which you require access, contact your company administrator.

Access a Configurable Manager

To access a Configurable Manager at the project, or shell level

1   In User Mode, locate the Configurable Manager under the project, or shell level in the Navigator. The actual name of your Configurable Manager is created in uDesigner. Navigate to *project* > **Configurable Modules >** *configurable manager* or shell > **Configurable Modules >** *configurable manager.*

2   If you are using a code- and record-based Configurable Manager, there are sheets and classes. To access a sheet, click the **Sheets** node. Select a sheet from the log. To access a class, select a class.

> If you are using a code-based Configurable Manager, there is just one sheet, which is listed under the log

The log for the class opens. The center navigation pane displays the segments of the codes hierarchically as selected in the properties window for each class. The right pane lists all the records created under the selected class.

Reverse auto-population and Code- and Record-Based Managers

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be automatically updated when other values are modified in a BP form or record attribute form.

You can use reverse auto-population to update fields on records, as well as attribute forms and line items. This can streamline the use of forms by keeping the information on them up-to-date with the latest Unifier data from components inside or outside the business process.

Depending on the set up in uDesigner, reverse auto-population can occur in these instances:

• Changes to the data elements in a BP detail form under the Company level can result in changes to the record attribute form of a generic manager a the Company level

• Changes to the data elements in a BP detail form under the Standard Project level can result in changes to the record attribute form of a generic manager a the Standard Project level

• Changes to the data elements in a BP detail form under the shell level can result in changes to the record attribute form of a generic manager a the shell level

CREATING SHEETS AND RECORDS FOR A CODE- AND RECORD-BASED MANAGER

Configurable Manager sheets enable you to capture data for Configurable Manager records. No data exists for a record until you create a sheet and populate it with data.

You can update data in the sheet or in the record. When you update data, it is updated as needed in both places dynamically. Updates occur when you save a sheet or refresh a record. In

addition, when you create a record under an appropriate class, it is are automatically added to the Configurable Manager sheet.

Here is an example of a code- and record-based manager sheet:

Figure 14-1 Code- and record-based manager sheet, example

Manually create a new sheet

The following describes how to create a new sheet manually.

To manually create a new sheet

1   In User Mode, select **Sheets** from the level that you are working in. The Sheets log opens.

Figure 14-2 Code and Record-based Manager log, example

2   Click **New**.

3   Select the class for which you want to create the new sheet. The Properties window opens. Complete the window as described in the following table and then click **OK**.
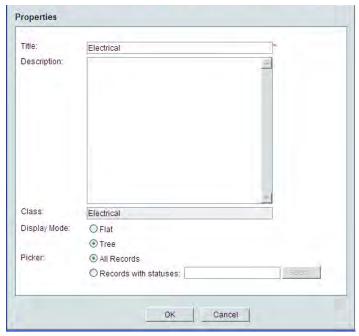
Figure 14-3 Properties window

> **Note:** *Your Properties window may vary depending on the setup in uDesigner.*

In this field:	Do this:
Title	Enter the name of the sheet, which reflects the class name and is read only.
Description	Enter an optional description.
Class	Read-only field displaying the class for the sheet.
Display Mode	Choose one of the following: • **Tree:** Lists the codes in a hierarchical manner based on the code segments and mimicking the tree structure in the Navigator. • **Flat:** Lists the codes in a flat structure. • Expand all codes: If you have selected a tree structure, you can use this option to specify that the sheet should always open with all rows expanded.
Default Filter View	If any filters have been created to restrict the information on the sheet, you can use this option to specify a default filter to use for this sheet.
Picker	Choose one of the following to include: • **All Records:** All records created in the class are displayed on the sheet. • **Records with statuses:** Click **Select** and choose one or more statuses from the list. Only records with selected statuses are displayed on the sheet.

Create records for classes

After you have created a sheet for a class, you can enter new class records or manage existing class records in that sheet.

Enter class records in a sheet

1   Navigate to the class node under the Configurable Manager node at the company, project, or shell level. The Class log opens. You can add or modify records based on your permissions.

Figure 14-4 Class log, example

2   The right side of the log lists the records created for the class. Click **New** to create a new record.

3   Enter the record data.

4   When you have completed the record, click **Finish Editing**. This is an example of a class log:

CREATING SHEETS FOR A CODE-BASED MANAGER

Configurable Manager sheets enable you to capture data for Configurable Manager records. No data exists for a record until you create a sheet and populate it with data.

Here is an example of a code-based manager sheet:
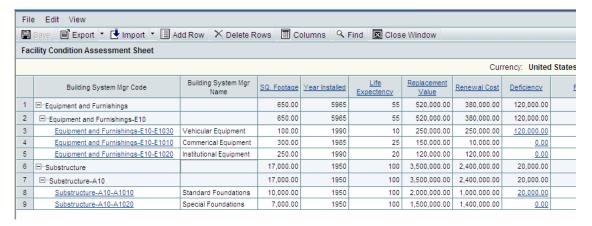
Figure 14-5 Code-based manager sheet, example

Manually create a new sheet

The following describes how to create a new sheet manually.

To manually create a new sheet

1   In User Mode, select **Sheets** from the level that you are working in. The Sheets log opens.
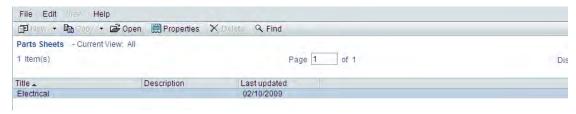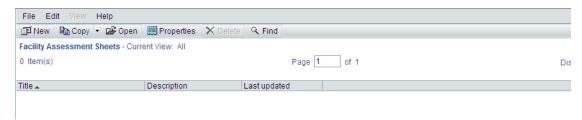

Figure 14-6 Code-based manager, example log

2   Click **New**. The Properties window opens. Complete the window as described in the following table.
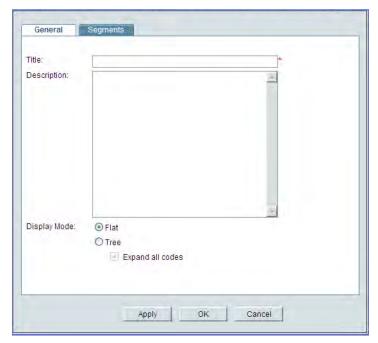
Figure 14-7 Code-based manager Properties window, example

> **Note:** *Your Properties window may vary depending on the setup in uDesigner.*

In this field:	Do this:
Title	Enter the name of the sheet, which reflects the class name and is read-only.
Description	Enter an optional description.
Default Display Mode	Choose one of the following: • **Tree:** Lists the codes in a hierarchical manner based on the code segments and mimicking the tree structure in the Navigator. • **Flat:** Lists the codes in a flat structure.

3   In the Segments tab, you can define the segments of the codes that will be created on the sheet. Click **Add** to add a new segment. Choose a segment source for the segment. The segment sources are defined in uDesigner.

4   Click **OK**.

You can view the attributes for a code by clicking on the code:
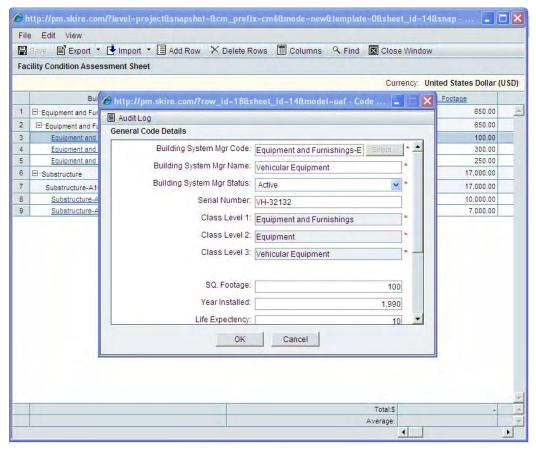
Figure 14-8 Attributes for a code, example

WORKING WITH CONFIGURABLE MANAGER SHEETS

Create a new sheet from an existing template

You can create a sheet by copying an existing template from the same class.

To copy an existing template

1   Select a class template from the log.

2   To copy a template, do one of the following depending on which level the template is:

- At the company level, click **Copy > Template**.
- At the project level, click **Copy > Project**.
- At the shell level, click **Copy >** *<shell name>*.

The Properties window opens with the information from the original template.

3   Make changes as needed in the Properties window, and click **OK** to create the new sheet.

Add columns to a sheet

If you have create permission, you can add columns, but not rows, to a Configurable Manager sheet template. The columns can capture data from business processes or manually entered data.

To add a column to a sheet

1   Open the sheet.

2   Click **Columns**. The Columns log opens.

3   Click **New**. The Column Properties window opens. Complete the window as described in the following table.

In this field:	Do this:
Name	The Name field is populated with the data source value selected.
Datasource	Select a data source. The data sources available are data elements that are defined in the detail form for a class in uDesigner. Also listed are data elements based on SYS Numeric Logical Datasource, Sys Date Logical Datasource, Sys Project Cost Datasource, SYS BP Currency Amount, SYS BP Decimal Amount, and SYS BP Integer Amount data definitions. **Note:** You can add data picker fields as columns, but you cannot invoke the data picker from the sheet.
Entry Method	Choose a data entry method for the column. The options vary depending on the data source selected: **Manual entry:** You can enter data directly into the cell, or data is rolled up from another source, such as the form. **Formula:** Formula types are numeric, date difference, and date add. See "Add a formula column" on page 614 for details on working with formulas. **Data Type:** This option is available if the data source is SYS BP Currency Amount, SYS BP Decimal Amount, or SYS BP Integer Amount, a business process, or information from the project cost sheet. After selecting the data type, click **Define** to choose the data element or define a formula based on the data element.
Data Format	Specify how the column data appears for numeric columns. The options are: • **Show as Percentage:** Data entered in a column is displayed as a percentage. For example, if you enter 0.25, it displays as 25%. • **Decimal Places:** Select the number of decimal places to display. • **Use 1000 Separator (,):** If you select this option, the entered data is formatted with a separator for numbers with more than three digits. For example, 1,000 rather than 1000. • **Negative Number Format:** Specify if negative values are displayed with a negative sign or in parentheses.
Display Mode	Select **Hide** to make the column invisible to users. Select **Show** to display it.
Summary Rows	**Specify what the summary rows display.** • **Blank:** Summary row remains blank. • **Sum of All Rows:** Summary row displays the sum total of all row values for this column. • **Use Formula Definition:** Formula entered in the Formula field applies to the summary row.

In this field:	Do this:
Total	Specifies what displays in the bottom summary row for each column: • **Blank:** Summary row remains blank. • **Sum of All Rows:** Summary row displays the sum total of all row values for this column. • **Use Formula Definition:** Formula entered in the Formula field applies to the summary row.
Column Position After	Determines the position of the column on the sheet.

To copy a column

1   In the Column log, select a column and click **Copy**.

2   The Column Properties window opens. Make changes as necessary for the new column. You must change at least the data source.

View column properties

The Properties window for a column maintains the column name, data source, entry method, and other properties for that column.

To open the column properties window
In the sheet, click on a column link. The View Column window opens.

Add a formula column

You can add a formula column to the sheet for data sources that are based on either the data definitions SYS Numeric Logical Datasource or SYS Date Logical Datasource.

You can define formulas for the following types:

• **Numeric:** This option is available if the data source is SYS Numeric Logical.

• **Data Difference:** This option is available if the data source is SYS Numeric Logical. It is used for formulas that calculate the difference between two dates.

• **Date Add:** This option is available if the data source is SYS Date Logical. It can be used to add values to a date to calculate a new date.

To create a numeric formula

1   In the column Properties window, choose **Formula** and select **Numeric**.

2   Click **Create**. The Create Formula window for numeric formulas opens.

3   Select either **Item** or **Sheet** from the data type drop-down list. Item lists data elements that are defined on the form. Sheet lists columns that are already defined on sheet.

4   Build a formula by doing the following:
   • To include a data source in the formula, select the data source from the list and click **Select**.
   • Click a mathematical modifier (plus, minus, and so on) and numbers on the keypad.

5   When the formula is complete, click **OK**.

To create a date difference formula

1   In the column Properties window, choose **Formula** and choose **Data Difference**. Click **Create**. The Date Difference window opens.

2   For Earlier Date and Later Date, click **Select**. Select a data element. The list includes date type data elements from the form or existing date type columns on the sheet.

3   Choose one of the following:

   • **Calculations based on Calendar Days:** The calculation is based on calendar days and does not take company non-working days into account.

   • **Calculations based on Work Days:** The calculation is based on the company calendar working and non-working days.

   • **Show Partial Day**

4   Click **OK**.

To create a date add formula

1   In the column Properties window, choose **Formula** and choose **Data Add**. Click **Create**. The Date Add window opens.

2   For the **Date** field, click **Select** and choose a data element from the list.

3   For the **Add** field, click **Select** and choose a data element from the list.

4   Choose one of the following:

   • **Calculations based on Calendar Days:** The calculation is based on calendar days and does not take company non-working days into account.

   • **Calculations based on Work Days:** The calculation is based on the company calendar working and non-working days.

5   Click **OK**.

Access sheets

Sheets are listed in the Sheet log in the Configurable Manager. There is one sheet per class. The records in the sheet are hyperlinks that you can click to get details about the record.

Note: You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

To open a sheet

1   In User Mode, select **Sheets** from the level that you are working in. The Sheets log opens. The log lists the sheets that you have permission to access.

2   Select the sheet in the log and click **Open**.

3   To view the details of a listed record, click the record. A view-only window opens displaying the record details.

Figure 14-9 View column details

Expand or collapse the sheet rows

For convenience in viewing sheet data, you can expand and collapse the rows to expose and close sub-items on the sheet.
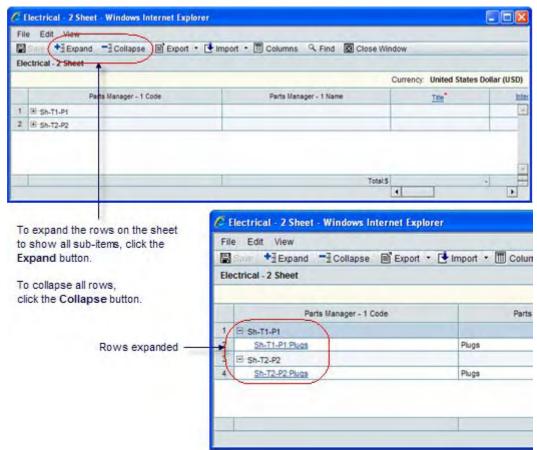
Figure 14-10 Expand or collapse sheet rows

View rollup data

For code-and-record-based managers, BP line item data, such as costs and quantities, can be configured to roll up to the manager sheet from across shells. Cells that contain rolled-up data will show a hyperlinked value. You can click on this hyperlink to open a cell details window and view all the business process transactions that contributed to the rollup.

Every transaction will include an ID that includes the shell or project number where the BP record was created.

Double-click on a transaction to open the original BP record in view mode.
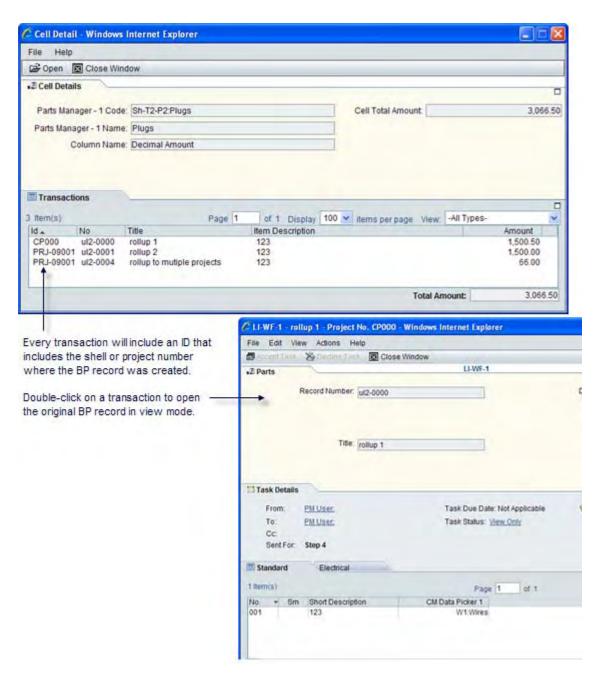
Figure 14-11 View rollup data

Filter the sheet content

Some managers, particularly those configured to function across shells, can accumulate a substantial amount of data. To make viewing this data easier, you can create filters to restrict the content of the sheet.

To create a filter

1   Open the sheet.

2   From the View menu, choose **Filters...**. The Setup Filters window opens.

3   Click the **Add** button. The Add Filter window opens.

Figure 14-12 Add Filter window

4   In the **Filter Name** field, enter a name for this filter.

5   Click the **Add** button. The Query Condition window opens.

6   In the **Data Element** field, enter the name of the field you want to appear on the manager sheet.

    The values in the field must meet a condition (such as "equals" or is "greater than") to be included on the sheet.

    Depending on the data element you enter, the Query Condition window will display variable fields.

7   Click **OK**, or click **Apply Filter** to filter the sheet content.

To apply a filter to a sheet

1   Open the sheet.

2   From the View menu, choose **Filters...**. The Setup Filters window opens, showing a list of the filters that have been created for the sheet.

3   Select the filter you want to use and click **Apply Filter**.

      Unifier displays a filtered view of the manager sheet.

      If you want to re-display all the rows on the sheet, you can clear the filter by choosing **Clear Filters** from the **View** menu.

> While in a filtered view, you can use all sheet functions except Export and Import.

To edit a filter

1   Open the sheet.

2   From the View menu, choose **Filters...**. The Setup Filters window opens, showing a list of the filters that have been created for the sheet.

3   Select the filter you want to edit and click **Edit**.

View sheet properties

The Properties window for the sheet maintains the name and display options. It can be used to map a column to a company account code.

To open the sheet Properties window

In the Sheets log, select the sheet and click the **Properties** button.

- The General tab is described in the following table.
- In the Options tab, sheet columns can be mapped to company account codes.

Enter sheet data

For manual data-entry columns, you can enter data directly into the sheet.

To enter data on a sheet

1   Open the sheet.

2   Click inside a manual-entry cell and enter the data.

3   Click **Save**.

Create and view a snapshot

You can take a snapshot of a sheet to keep as a record and view later.

To create a snapshot

1   Open the sheet.

2   Select **File > Create Snapshot**. The Create Snapshot window opens.

3   Enter a title and click **OK**.
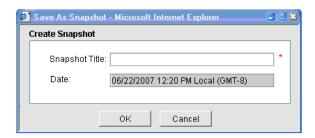
Figure 14-13 Create a snapshot

To view a saved snapshot

1 Open the sheet.

2 Select **View > Snapshot Log**. The Snapshot log opens.

3 Select a snapshot from the list and click **Open**. A read-only view of the sheet opens, displaying the sheet data at the time of the snapshot.

Copy data to another column

You can copy data from one manual-entry column to another.

To copy data from one column to another

1 Select **Edit > Copy > Column Data**. The Copy Column Data window opens.

2 Select the manual-entry column to copy, the percentage value, and the column to which to copy.

3 Click **Copy**.
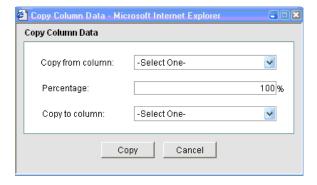
Figure 14-14 Copy column data

Search for records on a sheet

To search for records

1   Open the sheet.

2   Click **Find**. The Find window opens.

3   Select the search criteria:
    • **Column:** Choose a column from the sheet.
    • **Value:** Enter a value to search.
    • **Search:** Select the direction to search from the selection on the sheet.

4   Click **Find Next** to search for the entered value. You can click again to continue searching.

5   Click **Cancel** to cancel the search.
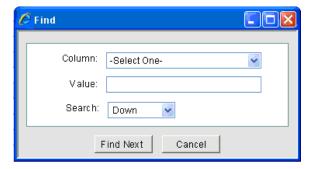
Figure 14-15 Search for records

Export sheet data

You can export data from columns that has been manually entered to a CSV file. The data is for reference only and cannot be reimported.

To export columns from a sheet

1   Open the sheet.

2   Click the **Export** button.

3   Select the columns to export and click **OK**.

4   Save the CSV file to your local drive.

Import sheet column data

You can enter data into manual-entry columns by importing a CSV sheet. The column must be configured on the record detail form to accept numeric data elements.

To import column data

1   In the CSV file, enter data for each listed record. Be careful not to change the CSV file structure.

2   Save the CSV file.

3   Open the sheet to which you want to import the data.

4   Click the **Import** button.

5   Browse to the CSV file containing the column data and click **OK**.

BULK EDITING CONFIGURABLE MANAGER RECORDS

Bulk edit Configurable Manager records

If you have a large number of records that need the same edits, you can use bulk edit to update all the records at once. You can update up to 200 records at a time. Bulk editing must be defined in uDesigner, and you must have the Allow Bulk Edit permission set for the manager.

Note: You cannot bulk edit code or names.

To update records using bulk edit

1   Navigate to the Configurable Manager log.

2   Select one or move records or use **Find** to search for a group of records with specific criteria. You can select the records from the class log or the Find log.

3   Select **Edit > Bulk Edit**. The Bulk Edit window opens. The fields displayed depend on what is specified in uDesigner for detail form integration for the class.

   Note: Bulk edits overwrite data without asking you to verify each change. Be sure that you have entered the data you want to edit correctly.

4   The Bulk Edit form includes all editable fields for the detail form. Modify the Bulk Edit form as needed.

5   Select the **Update** checkbox for the fields that you want to update. The checkbox is automatically selected when you type in a field. You can deselect it if you do not want to modify the field.

6   To start the bulk update of the selected records, click **Update**. The Bulk Actions Status window displays the progress of the update.

7   Click **OK** after all records have processed. Click **Cancel** if you want to cancel the bulk update in progress.

PRINTING CONFIGURABLE MANAGER RECORDS

For code and record based managers, you can print a copy of the record form. You can save a copy of the form as a PDF file and print the file, print an HTML view, or print from a Word file if a custom print layout has been created for the form.

Note: To print, the form must be in View mode. View mode refers to the non-editable version of the form. If the form is currently editable, you must click Finish Editing before the form can be printed.

Print a configurable manager form

When printing forms from PDF or HTML format, you can choose to include not only the information on the form itself, but also associated information such as general comments and information about file attachments. The print options are:

- Detail form data
- General comments made to the record
- Information about file attachments on the record or line items
- Comments made to file attachments

If custom print layouts have been created for the configurable manager, the form will print according to the layout that you select.

To preview and print a configurable manager form in PDF or HTML format

1   Open the configurable manager record that you want to print. Be sure it is in a view mode.

2   From the **File** menu, choose **Print Preview**, then choose one of the following:
    - **HTML**, to view the form in the browser, which can then be printed.
    - **PDF**:, to open the form in Adobe Reader, which can be saved as a PDF file, or printed.

    The Print Options window opens. This window displays the record information that can be printed.

3   Select the checkboxes for the information that you want to print.

4   To select all the checkboxes, click the **Select All** checkbox. To deselect all, uncheck the **Select All** checkbox. If you deselect all checkboxes, only the header and footer will print.

5   Click **OK**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.

    If you chose PDF, you can save a copy by clicking the **Save a Copy** button, or print. To print from HTML format, click on the **Print** icon in the upper right corner.

Print Options
Following is a summary of the print options.

Print option	What it prints
Detail Form	This prints the information entered on the form.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name, and also include the file title, issue date, revision number, and file size.
Record Attachments > Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.

To print a configurable manager form with a custom print layout

1   Open the form that you want to print. Be sure it is in a view mode.

2   From the **File** menu, choose **Print Preview > Custom**. The Custom Format Print window opens. The window lists custom layout options set up by the administrator.

3   Select a layout and click **Ok**. The File Download window opens.

4   Choose to **Open** or **Save** the file, which is a Microsoft Word DOC file.

5   Open the file in Microsoft Word and print. This feature can be used with Microsoft Word 2003 and 2007.

15 REPORTS

In this chapter

▸ *Running user-defined reports*
▸ *Saving a copy of report results to your local machine or within Unifier*
▸ *Retrieve saved reports that are part of scheduled report runs*
▸ *Printing and exporting reports*

OVERVIEW OF USER-DEFINED REPORTS

About user-defined reports

User-defined reports (UDR) are customizable reports that can be run at the project, shell, program, and company level. The information that can be included in a UDR can include:

- Any business process data element (that is, fields found on the business process form)
- System data elements, including company, project, shell, and user information
- Column headings from cost, funding, schedule sheets

You can define as many different reports as you need and save them for other users to access and run.

User-defined reports are defined the same way for project-level, shell-level, program-level, and company-level reports, with a few exceptions. Only the query fields will vary from report to report.

In addition, summary and alert reports can be used to create a customized summary view and customized alerts. (See Chapter 3, "Projects, Programs & Company Workspace" or for more information about project summary and alerts, and Chapter 4, "Shells" for details on shell alerts.)

Note: For information about creating or editing user-defined reports, see the Unifier Administration Guide.

Note: The images that you can add to business processes do not print in UDRs. See "Add an image" for details.

Types of user-defined reports

You can create and run user-defined reports of the following types:

Tabular: This is the basic report format, arranging information vertically in columns. Tabular reports are a way to present related information for multiple records on the same page.

Cross tab: Cross tab reports allow the display of data on two axes. Cross tab reports enable users to run time-series reports defined by two data sources, for example, payments made per quarter per vendor.

Summary: Summary reports can be run to display summary data. Project-level summary reports can also be used to customize the summary view and include the information that is most useful for you.

Alert: Project/Shell-level alert reports are used to set up and customize the generation of system alerts, based on a project- or shell-level trigger that you specify. For example, you can have alerts let you know when your remaining budget is getting low. Alerts are set up and customized by users for their own use using alert reports.

User-defined report data types

Data Type	Project UDR	Shell UDR	Program UDR	Company UDR	UDR Template
Accounts Sheet				x	
Active Task Information	x	x		x	x
Asset Summary Sheet				x	
Commitment Summary	x	x			x
Company Cash Flow				x	
Company Cost				x	
Cost Sheet - WBS	x	x	x		x
Cost Transactions -WBS	x	x	x		x
Cost Transactions MC - WBS	x	x			
Document Manager	x	x	x	x	x
Document Manager—Company				x	
Funding	x		x	x	x
Gates	x	x	x		x
Program Cash flow			x		
Program Cost			x		
Program Schedule			x		
Resource Booking	x				x
Resource Manager—All Actuals				x	
Resource Manager—Allocated Roles	x		x		x
Resource Manager—Booked Resources	x		x		x
Resource Manager—Project Actuals	x		x		x
Resource Manager - Resources (Company)				x	
Resource Manager—Roles				x	
Resource Manager—Sheets	x		x		x
Schedule of Values	x	x	x	x	x
Shell or Project Cash Flow	x	x	x		x
Shell or Project Cost	x	x	x		x
Shell or Project Groups	x	x	x		x
Shell or Project Information	x	x			x
Shell or Project Users	x	x			x
Workflow Information	x	x	x	x	x
(Asset class name)				x	
(Business process name)	x	x		x	
(Planning type name)				x	

ACCESSING USER-DEFINED REPORTS

User-defined reports can be run for projects, shells, programs, or across projects and shells at the company level.

Access user-defined project or shell reports

To access user-defined project/shell reports
In the Navigator, open a project or shell and select **Reports > User-Defined**. The User Defined Reports log opens.

Access user-defined program reports

To access user-defined program reports
In the Navigator, open a program and select **Reports > User-Defined**.

Access user-defined company reports

To access user-defined company reports
In the Navigator, navigate to **Company Workspace tab > Company > Reports**.

User-defined report logs

The project/shell, program, and company-level user-defined report logs display the following:

Column	Description
	Indicates that the report has been enabled for web services integration (project and shell level and company-level reports only).
	Indicates that the report has been enabled for mobile access (company-level reports only).
Name	The identifying name of the report.
Description	Displays the description of the report if one has been provided.
Data Type	The type of data on which the report is being run, for example, business processes, cost manager elements, project or shell information, workflow information, etc.
Report Type	Tabular, cross tab, summary, or alert.
Owner	The creator of a report is its owner.
Scheduled	Displays the scheduled frequency of a scheduled report.
Last Run Date	Displays the last date that a report was run and saved as a PDF or XML file.

RUNNING USER-DEFINED REPORTS

Run a user-defined report

Running a user-defined report consists of the following:

• Define query parameters if applicable

• Review/choose projects or shells to include if applicable

• Add runtime notes if applicable

• Choose the report format (HTML, CSV, Excel, PDF, XML)

• Run the report

The following describes how to run project, shell, program and company-level user-defined reports.

To run a user-defined report

1   Navigate to the User-Defined Reports log for the shell, project, program, or company.

2   Select a report in the log and click the **Open** button. The User-Defined Report window opens.

3   Complete the tabs as described in the following sections:

    • **Query tab:** The Query tab is the first tab to display by default. This tab allows the entry of query parameters as defined during creation and set up. For example, you can set up a report to list all leases that expire within 10 days of today. You can also choose to accept the default query parameters, if any.

    Note: *For information purposes, the Query tab displays the time zone that is used for date fields in the report. The default time zone for a report is set up when the report is designed. It can reflect your user time zone, as defined in your user preferences, or it can be fixed to a particular time zone, such as the project location or company headquarters.*

    • **Projects/Shells tab:** The Projects/Shells tab appears in program-level and company-level UDRs.

    Note: *Projects and shells with the Active, On-Hold, View-Only status are listed on the Projects/Shells tab.*

    • **Notes tab:** You can enter report notes that will be included only on the current report results to be generated, and will not be saved or generated in any subsequent report results. To enter notes, the data element runtime notes must be present in the report layout (Edit Report window, Layout tab).

    • **Shells tab:** The Shells tab appears for shell-level reports only.

4   Select the report format at the bottom of the window. This determines how the report results will be presented.

5   Click **Run** to generate the user-defined report.

Add query parameters (Query tab)

The Query tab allows the entry of query parameters as defined during creation and setup.
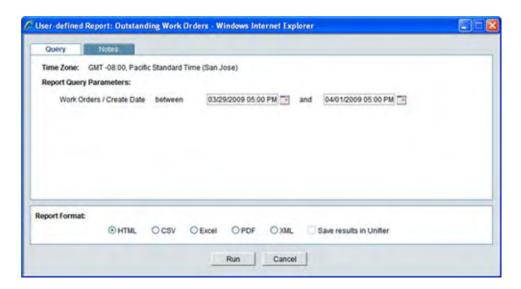
Figure 15-1 User-defined Report window, Query tab

Note: *This tab will vary for each report. In the example above, the create date was used for the query parameters. If the report has been set up to enter query parameters, you may enter query information, which will give report results based on records that match the parameters you entered, or leave the field blank to run a report on all records. If you set the option for Auto Range under the Layout tab, then you will see the Auto Range option in this window.*

Select project or shell (Projects/Shells tab)

- The Projects/Shells tab appears in program-level and/or company-level UDRs for cross-project or cross-shell reports.
- Projects and shells with Active, On-Hold or View-Only status are listed on this tab.

Figure 15-2 User-defined Report window, Projects/Shells tab

Note: *Depending on how the report was set up (specifically, if "Allow users to modify value(s) during execution" was enabled in the creation step), you may add or remove projects or shells from the list as needed. You also have the option of selecting to display the list in the report.*

Add runtime notes (Notes tab)

The text entered in the Report Notes field will be included only on the current report results to be generated, and will not be saved or generated in any subsequent report results. Report notes can be added if the data element Runtime Notes is added to the report layout (Layout tab, Edit Report window).

Figure 15-3 User-defined Report window, Notes tab (report notes enabled)

Select shell (Shells tab)

The Shells tab appears in shell-level UDRs for cross-shell reports. This tab allows you to retrieve data across shells and sub-shells. This tab appears for shell-level UDRs only, and not for standard projects.

The selection in the Shells field is determined when the UDR is created, and you cannot modify it. The non-modifiable options that you will see in the Shells field are:

• Current Shell and Sub-shells

• Current Shell only

• Sub-shells only

• User Defined (which allows the selection of a user determined combination of shells). If the **Allow user to modify User-defined list during execution checkbox** was selected when the UDR was created, you can modify the list of User Defined shells at run time of the report by using the **Add** and **Remove** buttons. You can only add the shells that contain you as a member user.
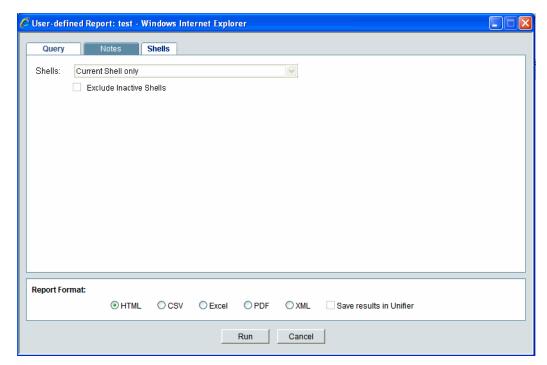
Figure 15-4 User-defined Report window, Shells tab

User-defined report formats

You can choose the format of user-defined report results. The report format options are available at the bottom of the User-defined Report window at runtime.
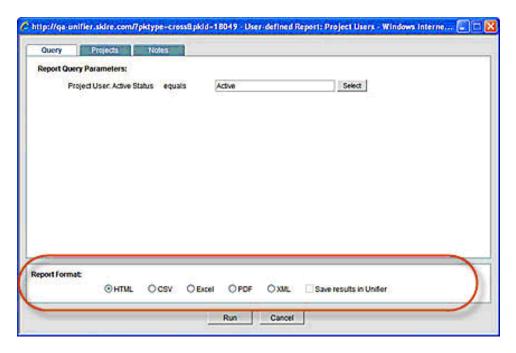
Figure 15-5 User-defined Report window, Report Format section

The report format options are:

- **HTML**: Displays the report in the standard format in a browser window. You may print a copy of the report from the browser window. (Click the **File** menu and select **Print** or **Print Preview**.)

- **CSV**: Formats the report in an exportable CSV format, usually in Microsoft Excel or another application you have set up for this format. You will be prompted to save the file or open it.

- **Excel**: The report displays in Microsoft Excel format in the browser window. You can save an Excel formatted copy of the report or print from the window. (Click the **File** menu and select **Save As** or **Print**.)

- **PDF**: Opens Adobe Acrobat Reader and displays the report in PDF format. You can save a copy of the report and/or print it from the PDF window. (Click the **File** menu and select **Save** or **Print**.)

- **XML**: Generates the output in XML format. Before the results are generated, a confirmation window will open, giving you the option to save the XML file to your local machine (click **Save**), or display the results in a pop-up browser window (click **Open**).

- **Save results in Unifier**: This checkbox becomes active if PDF or XML is selected. Selecting this checkbox will save a copy of the PDF or XML report within Unifier and make it available for retrieval.

> **Note:** *Scheduled report runs can be saved and retrieved in PDF or XML formats and sent to the report owner or to the owner and other users and groups. These are chosen in the Schedule tab of the Edit Report window. See the Unifier Administration Guide for more information about setting up reports and scheduling report runs.*

Save and retrieve scheduled report results

Report owners can schedule user-defined reports to run automatically and save the results within Unifier as PDF or XML files. If you have run permission for a report, you can view or print any saved results. Report owners can delete saved results from a scheduled report run.

You can save report results and query parameters on reports that you run manually (ad hoc). This option is available only when the report is being generated in PDF or XML format. This is available at runtime for project-level, shell-level, program-level and company-level user defined reports.

Note: *The default time zone for a report is set up when the report is designed. It can reflect the time zone of the person running the report, as defined in user preferences, or it can be fixed to a particular time zone, such as the project location or company headquarters. If the "user's time zone" option was selected in the set up of this report, the time zone reflected on the scheduled report results will that of the report owner.*

To save report results

1   Navigate to the project-level, shell-level, program-level, or company-level User-Defined Reports log.

2   Select a report from the log and click **Open**. The User-defined Report window opens. The window displays results that have been saved from manual (ad hoc) report runs as well as scheduled report runs.

3   In the Report Format portion at the bottom of the window, choose **PDF** or **XML**.

4   Select the **Save Results in Unifier** checkbox. This saves a copy of the report results within Unifier.

5   Click **Run** to run the report. This may take a few moments.

6   When the report is generated, you will be prompted to open or save the file. Click **Open** to view the file. PDF files will open in Acrobat Reader, from which you can save the file to your local drive by clicking **File > Save**. XML files will open in a pop-up browser window. Or click **Save** to save the file to your local drive.
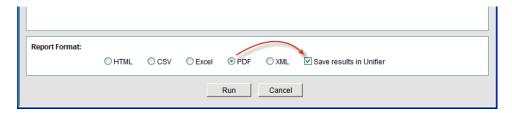

Figure 15-6 Save UDR results in Unifier

To retrieve saved report results

1   Navigate to the project-level, shell-level, program-level, or company-level User-Defined Reports log.

2   Select a report from the log and click the **Saved Results** button. The Saved Results window opens.

3   Select a saved result and click **Open**.

4   You will be prompted to open or save the results file. Click **Open** to view the file. PDF files will open in Acrobat Reader, from which you can save the file to your local drive by clicking **File > Save**. XML files will open in a pop-up browser window. Or click **Save** to save the file to your local drive.
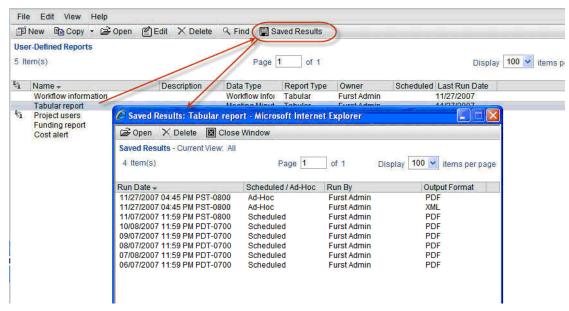
Figure 15-7 Retrieve saved UDR results

To delete saved report results

1   Navigate to the project-level, shell-level, program-level, or company-level User-Defined Reports log.

2   Select a report from the log and click the **Saved Results** button. The Saved Results window opens.

3   Select a saved result and click **Delete**. Click **Yes** to confirm.

Print report results

After running a report, you can print a copy. Depending on the report format you chose, the report results will be displayed in a browser window (HTML, XML), Adobe Acrobat Reader (PDF), Excel (Excel, CSV), or other application displaying CSV format. The printing functionality will depend on the format of the report.

To print report results

1   Run a user-defined report.

2   For most formats, you can click the **File** menu and choose **Print**. For HTML and XML, you may need to right-click in the browser pop-up window and choose **Print**. Additional printing functionality may be available depending upon the report format.

WORKING WITH CUSTOM REPORTS

If your company has custom project, shell, or program reports developed through third-party tools (Crystal Reports), they will be available in the Custom Reports node.

To run a custom project, shell, or program report

1   Open the project, shell, or program.

2   In the Navigator, click **Reports > Custom**. The Reports log shows the list of available custom reports, if applicable.

3   Select a report from the list and click **Open**. The Report Viewer opens.

4   Select a project or shell from the list and click **Report** to generate the report.

5   Click **Close** to close the viewer.

WORKING WITH UNIFIER MOBILE

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MANAGING REPORTS ON A MOBILE DEVICE

The Unifier Mobile application enables you to download and view company-level reports on a Blackberry. You can select company-level reports and mark them as mobile so they can be downloaded to your mobile device.

Note: This feature is only available for company-level cross-tab and tabular reports.

Mark reports in Unifier for mobile access

Within Unifier, you can select which reports you want to view and add them to your mobile device. Look at the Mobile column to see which reports can be accessed.

Note: If the Group by option is set on reports (i.e.: Group by user name), you won't be able to mark these reports as mobile. Reports marked as mobile cannot contain groupings of data results.

To add reports to a mobile list

1   In User Mode, navigate to **Company Workspace > Reports > User-Defined reports**.

2   Select a report and click the **Mobile** button on the toolbar menu. The mobile icon displays in the Mobile column of the report log.

This will be the report list you will see when you connect to Unifier using your mobile device. The following shows the list of available reports that are marked as mobile on your mobile device.

Figure 15-8 Example list of reports available to uMobile

To remove reports from the mobile list

1   Open **Unifier > User Mode**.

2   Go to **Company Workspace > Reports > User-Defined reports**.

3   Select a report and click the **Remove Mobile** button on the toolbar menu. The report is no longer marked as mobile and the word "Mobile" is no longer next to the report in the Mobile column.

Access reports from a mobile application

To access reports from a mobile application

1   Turn on your Blackberry device and highlight **Unifier Mobile Application**.

2   Click on the **Unifier Mobile** icon. After launching Unifier Mobile, the main screen displays existing reports. For first time use, the report list will be empty.

3   Click **Open > Show Mobile List** to view existing reports. You can view the available menu items for the report screen.

View report, project, shell, and record details

You can view the details of the report, such as last sync date and time. You can also open a report and see additional information related to the report, such as project or shell and record details.

To view report details

1   After launching Unifier Mobile, the main screen displays reports.

2   Select a report.

3   Click **Open > Details** from the menu. A screen displays where you can see additional information regarding the report. Only the first two columns of the report are displayed.
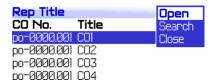
To view a project or shell list for a report
You can scroll through the list of projects or shells displayed on the screen, and select a record from the list and view the details of it by clicking on **Open** from the menu.
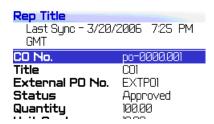
To view record details

1   Open a report and select a record.

2   Click **Open**. Details of the record displays.

3   The name of the report displays at the top. You can scroll down and see the complete list of details of the record.

4   Return to the report project or shell list by clicking **esc** or an equivalent control on the mobile device.

To view a complete detail of a column

Column detail

Search for and run reports on a mobile device

You can find specific reports by name and then run them.

To search and run reports
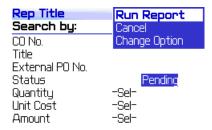
1 Go to the main menu of the mobile device. The following screen shows the list of available reports that are marked as mobile.

2 Click **Search**.

3 Enter search criteria.

4 Click the **Run Report** option from the menu.
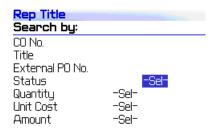
5   The report displays as shown in following screen.

6   To cancel the search option, select **Cancel** from the menu. You can clear fields by clicking on **Clear Fields** or enter special characters by selecting **Show Symbol** option.

To change options

1   From the Search screen, click **-Sel-** next to the option to change. You can change values such as status, quantity, amount, etc. For example if you want to change the status of a report to pending, select **-Sel-** next to Status.
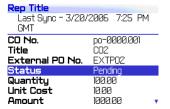
2   Select **Change Option** from the menu. The options display. In the example below, the Status options are displayed.
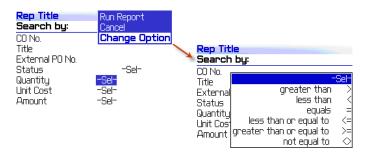
Select a new option, for example, change the status to pending.

Verify that the option has been changed by opening the report and selecting the option. In the example below, the status has been changed to pending.
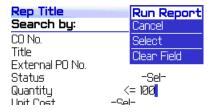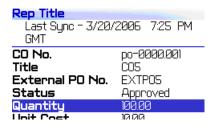
3 You can also change criteria for numeric information in the search screen, such as for quantity, unit cost, or amount. For example, to change quantity, click **-Sel-** next to Quantity in the Search by column.

4 Click **Change Option**, and then select an option (in this example, select "less than or equal to").

Enter a value (for example, 100).

Verify that the quantity has changed and displays 100.00.

Sync reports

You can sync existing reports on your mobile device with your latest Unifier reports and then download new reports.

To sync reports

1 Select the **Show Mobile List** option from the menu on the main screen. The list of available reports (marked Mobile) is displayed.

2 Select one or more reports to synchronize by highlighting and pushing the wheel.

3 Select the **-Sync-** label and push the wheel to download the latest reports from Unifier. The device connects to Unifier to download the latest information from the reports.

The connecting screen displays a please wait message. Once reports are synced up, a confirmation message displays.

Once sync is done, the main screen displays where you can access the latest information from the reports. The Last Sync column displays when a report is synced up and reflects the latest information.

The following screen shows the synchronized report with the last sync date.

4 Select **Details** to view the synchronization details of a report.

Note: *If you select a report that already exists on the device, it will be updated with the latest information. If you select a report that already exists on the device but the name of the report is modified on the Unifier side, the current report details will be downloaded to the device and the report on the device will be updated with the current name. If you select a report that does not exist on the device, the report details will be downloaded to the device.*

Delete reports from a mobile device

To delete a report from a mobile device

1   Select the report you want to remove.

2   Click **Delete** from the menu list. A confirmation message displays. Select **Yes**.

16 UNIFIER FOR MOBILE DEVICES

In this chapter

▸ *What you can do on Unifier for mobile devices*
▸ *Logging into Unifier from a mobile device*
▸ *Navigating Unifier on a mobile device*
▸ *Working with projects, shells and the company workspace*
▸ *Working with business process forms*
▸ *Adding and managing bookmarks*
▸ *Searching for records*
▸ *Working with assets*
▸ *Working with uMail*

GETTING STARTED WITH UNIFIER FOR MOBILE

If your company's employees are often out of the office, Unifier can keep the workflow moving by taking advantage of mobile devices with browser capabilities.

On mobile devices, Unifier provides a simple interface where users can perform tasks such as navigating logs, accepting work orders, creating or updating business processes (including line items), managing assets, viewing project and shell details, and accessing tasks, messages, and uMails.

For example, Unifier users in facilities management could acknowledge work, perform the work, and report its completion back to headquarters using their SmartPhones. For company technicians who use mobile devices in the field to locate data for specific assets and pieces of equipment they are working on or tracking, Unifier for mobile can supply asset data, such as work order details, condition assessments, or work order histories. Executives or partners may want to use Unifier for mobile for faster approvals or collaboration.

Note: This chapter assumes that you are familiar with using Unifier from an Internet Explorer browser. If you need further information about any of the features described here (e.g., working with business processes, assets, shells, uMail, etc.), see the appropriate sections in this guide.

UNIFIER FOR MOBILE REQUIREMENTS

- Smart mobile phone or similar mobile device. Must be able to access the web using a mobile browser. Plain text is not supported. No special application needs to be installed for this solution.
- In order to access Unifier, your mobile browser must be able to accept cookies. If you are having trouble logging into Unifier for mobile, try enabling cookies on your device. The procedure for enabling cookies may be different for your specific device; following are some examples:
  - If your device uses a Safari browser (e.g., an iPhone), navigate to Settings>Safari>Accept Cookies, then choose *From Visited* or *Always*.
  - For Microsoft IE mobile browsers (e.g., a Blackberry), open the browser, then select **Menu > Tools > Options > Privacy** and **Security > Enable Cookies**.
- To view business process records, assets and shells on a mobile device, they must first be enabled and set up for mobile use in uDesigner. See the uDesigner User Guide for details. No other special setup is required.

By default, uMail, standard project details and the standard project user directory are accessible on Unifier for mobile without special setup. You can also view Tasks and Messages logs, but the records will not be accessible without enabling the business processes first in uDesigner.

WHAT YOU CAN DO ON UNIFIER FOR MOBILE

With Unifier for mobile, you can perform many common Unifier tasks. The following features are supported on Unifier for mobile:

Bookmarks

- Add bookmarks to your mobile version of Unifier, for easier navigation
- These bookmarks are separate from the bookmarks you may have in standard Unifier

Tasks and Messages

- Access your tasks logs to view all of your business process tasks
- View tasks and messages
- Accept and complete tasks, and move the record forward in the workflow

Business Process Logs

- Create and send new business process records, or edit existing records
- Add and manage line items using the detail form (the line item grid view is not supported)
- Workflow and non-workflow, single and multi-record business processes are supported

uMail

- Create new uMail messages
- View or reply to uMail that you receive
- Access your uMail at the company, project or shell level

Asset Manager

- View asset logs and records
- Create new asset records, or edit existing records
- Assets are displayed in a flat navigation
- Asset sheets are not available on a mobile device

Projects, Shells and the Company Workspace

- View project and shell logs
- Open a project, shell or the company workspace to access their respective business process logs, uMail, Tasks and Messages, the company Asset Manager, and other mobile-supported information
- View project/shell details
- Access the project/ shell user directory
- Shells are displayed in a flat navigation

Note: *Refer to "What is supported" for details about what is supported for the features listed above*

What is supported

- All supported features are in User Mode; Administration Mode features are not available.
- Only those business processes, assets or shells enabled for mobile access will appear in the logs when accessed through Unifier for mobile.
- In order to view business process records, assets or shells on your mobile device, the business process, asset class, or shell type must first be enabled and set up for mobile access. This is done in uDesigner. See the uDesigner User Guide for details.
- If you are completing a form with a BP Picker, Asset Picker or Shell Picker, all business processes, assets and shells will be selectable on that picker, regardless of whether they are mobile enabled - you just won't be able to view the records themselves through Unifier for mobile. In shell pickers, shells are grouped by each main shell tab (single-instance shell), with all of its child shells displayed in a flat list.
- Most business process types are supported, with the following exceptions:
  - Lease
  - Resource booking
  - Timesheets

- Document type
- RFB
- Project/Shell Creator
- Payment applications are supported, although the default line item grid view is not available. Payment application information must be entered one line item at a time.

- Some picker elements are not currently supported for mobile use. If they are present on a form, they will be read-only when the form is viewed on a mobile device. These elements are:
  - Activity picker
  - Image picker (displays the image file name)
  - Level picker
  - Location picker
  - Planning item picker
  - Program picker
  - Resource picker
  - Role picker
  - Space picker
  - Sys Date Datasource picker
  - Sys Date Logical Datasource picker
  - Week picker

- User-defined Reports (UDRs) are not available through this mobile interface. UDRs can be run on supported Blackberry models using the Unifier Mobile application.

LOGGING INTO UNIFIER FROM A MOBILE DEVICE

Your Unifier environment is available for your mobile device as long as you have access to the internet and a web-enabled mobile browser. To use Unifier for mobile, you log into the mobile version of Unifier. To do this, simply add a "/m" at the end of your normal Unifier web address.

For example: https://ues.skire.com/m

To log into Unifier for mobile

1   Be sure your mobile device has web access.

2   In your mobile web browser, enter the URL you normally use to access Unifier, followed by /m (for example: https://ues.skire.com/m). The mobile login screen opens.

3   Log into Unifier as your normally would: enter your Unifier user name and password, choose your company from the pull-down if applicable, and click the **Login** button. The Home page opens.

    Depending on your mobile device, you may also be able to select a checkbox to remember your user name and password on the device.

Note: If you are having trouble logging into Unifier for mobile, you can try enabling cookies on your mobile browser. See "Unifier for Mobile Requirements" on page 646.

Figure 16-1 Example Unifier for mobile login screen

NAVIGATING UNIFIER ON A MOBILE DEVICE

Unifier for mobile devices provides a simplified Unifier user interface to help you quickly perform common tasks or access the information you need.

General navigation

The mobile version of Unifier is a simplified version of the Unifier interface. There is no left navigator, and no popup windows. A limited number of User Mode features are accessible through the mobile device. Administration Mode features are not available.

Home page

Below is a summary of the Unifier User Mode features that you might access on your mobile device. This list shows the default names of supported nodes; depending on your company's Unifier configuration, naming conventions, and your permission levels, the links you see may differ, and will reflect the labels you normally see on your Unifier navigation nodes.

- Tasks: all tasks are listed; if the business process has been enabled for mobile use, the task will display as a clickable link
- Messages: displays the contents of your Messages log
- uMail Inbox: corresponds to your uMail inbox
- Company Workspace: corresponds to the user mode Company Workspace
- Projects: this will display the name used for standard projects
- Shell(s): any tab or tabs used for configurable shells will be listed

- Bookmarks: if you have created bookmarks on your mobile device, they will be listed here. Any bookmarks you may have created in standard Unifier do not automatically display here.

Figure 16-2 Example Home page. Note the Links at the bottom.

Links

At the bottom of each page are easy-to-navigate links.

If you are at your home page, the links are:

- **Manage Bookmarks**: allows you to reorder, remove or change the name of your bookmarks (you can add bookmarks from any open log or navigation page)
- **Logout**: click this link to log out of Unifier mobile

If you are at any page other than your home page, the links are:

- **Back**: this link will return you to the last page that you visited. Use this link, rather than any Back button or link that your device may have.
- **Home**: click this link to return to your home page
- **Logout**: click this link to log out of Unifier mobile

Buttons

Most allowable functions for a feature are available by buttons that usually appear at the bottom of the screen. For example, on log screens, the **Add Bookmark** button is available, which you can click to bookmark the page.

About logs on a mobile device

Business process, asset class and shell logs are designed in uDesigner. The information that appears in the log columns is determined by how it has been designed in uDesigner. For ease of use, the mobile version of these logs may display a subset of the total number of log fields that are displayed in standard Unifier.

About entering information on a form on a mobile device

When you open a business process form, asset form, or the shell details on a mobile device, the fields will display in a flat list. The form fields function much the same way as they do in the standard Unifier interface. For example, you can select or deselect checkboxes and radio buttons, click a pull-down menu to choose an option, and type information directly into text fields.

As in standard Unifier, some fields such as pickers and multi-select fields have a **Select** button. For pickers, when you click **Select**, a picker window opens. Each option includes a link; click the link to select the entry. For multi-select entries, click the **Select** button, then select the checkboxes next to your entry choices and click **Ok**. The choices that you are presented with in these pickers are the same as when accessed through standard Unifier.

Because Unifier for mobile devices uses plain HTML that allows it to display on virtually any mobile browser, there are some dynamic features that will not work the same way as they do in standard Unifier. If you have a dynamic data set on a business process, the pulldown menus associated with it will not dynamically filter the display lists. This means that fields that are part of dynamic data sets will display all options on all fields. Upon saving or submitting a form, validation is run to ensure that the combination you choose is valid. If not, an error will display, and you can choose different values for the fields. (For example, if your dynamic data set filters out cities based on a previously selected state, then even after selecting the state, the city list will include all cities in the system, regardless of state. Upon saving or sending the form, the system will validate your selections to make sure that the city and state combination you chose is valid.)

Formula fields will not refresh automatically. When formula fields are present on a form, a **Refresh** button is available. Click the **Refresh** button to refresh the field if you have changed other fields that may affect its value.

Some pickers are not mobile-supported and will display as read-only.

WORKING WITH UNIFIER FOR MOBILE

WORKING WITH PROJECT, SHELLS AND THE COMPANY WORKSPACE

As with standard Unifier, you can access your projects, shells and the company workspace in Unifier for mobile. These nodes house company, project, and shell-level tasks, business processes, uMail messages. The company space also houses the asset manager. You can also view project and shell details and team members when you open a project or shell.

Business processes, asset classes and shell types must be enabled for mobile access in order to access them on a mobile device. By default, all standard projects are mobile accessible.

Open a project, shell or the company workspace

This section summarizes the Unifier User Mode features that you might access on your mobile device. This includes the default names of all supported nodes; depending on your company's Unifier configuration, naming conventions, and your permission levels, the links you see may differ.

To open the company workspace

1   Log into Unifier for mobile and navigate to the Home page.

2   Click the **Company Workspace** link. The default links are:

- Tasks (your Company Workspace Tasks log)
- Messages (your Company Workspace Messages log)
- Asset Manager (displays the list of asset classes enabled for mobile use; asset sheets are not accessible)
- General (BP log for single-record business processes; only those business processes that have been enabled for mobile access will be listed. This is true for all BP logs accessed through mobile, except for Tasks and Messages.)
- Data Manager (BP logs
- Business Processes (company-level BP logs)

Figure 16-3 Example Company Workspace log. Note links at the bottom of the screen.

To open a project

1   Log into Unifier for mobile and navigate to the Home page.

2   Click the **Projects** link. The Projects log lists all projects you have permission to view. The project numbers are clickable links.

3   Click a project number link. The project opens. The default links are:

- Tasks
- Messages
- uMail Inbox
- Information
  - Details: Displays information about the project from the project details
  - Directory: Displays the project team members
- General (BP log)
- Data Manager (BP logs)
- Business Processes (BP logs)

To open a shell

1   Log into Unifier for mobile and navigate to the Home page.

On the Home page, shells are listed by the root shell. (In standard Unifier, these root shells appear as tabs at the top of the window.) Only shell types that have been enabled for mobile access (on the shell attribute form in uDesigner) will be listed. This is true of the root shells and their child shells.

2   Click the link of a root shell. The shell log opens. All child shells are listed in the log, in a flat list. The hierarchy of the shells is not displayed. The shell numbers are clickable links.

3   Click a shell number link. The shell opens. The default links are:

- Tasks
- Messages
- uMail Inbox
- Information
    - Details: Displays information about the shell from the shell details, and includes the fields that have been mobile-enabled for the shell attribute form
    - Directory: Displays the shell team members
- General (BP log)
- Data Manager (BP logs)
- Business Processes (BP logs)

View project or shell details

You can view details about the project or shell. You can also view the project/shell team member directory from your mobile device.

Project details come from the project properties by default, and are not editable on a mobile device. Shell details come from the shell attribute form; the information that you can view on a mobile device is set up in uDesigner. If you have edit permissions, you can edit the details here.

To view project details

1   Log into Unifier for mobile, and open a project.

2   Click the **Details** link. The project details opens, displaying information entered in the Project Properties in Unifier. This information is not editable here.

To view or edit shell details

1   Log into Unifier for mobile and open the shell.

2   Click the **Details** link. If you have edit permissions for the shell, the details will open as an editable form.

3   Edit the details as necessary and click **Ok**.

To view the project or shell team directory

1   Log into Unifier for mobile and open the project or shell.

2   Click the **Directory** link. The Directory opens, listing team members and contact information.

WORKING WITH BUSINESS PROCESS FORMS ON A MOBILE DEVICE

The forms you see on a mobile device are a simplified version of the business process records you work with when accessing Unifier through an Internet Explorer browser. The mobile version of the form may contain all of the fields that you would see on the form when accessed through a regular browser, or, for ease of use, it may be designed to display a subset of the original fields.

Most business process types can be used on a mobile device, with some exceptions. Some picker elements are not currently supported for use on a mobile device, and display as read-only. For supported business process types and pickers, see What is supported on page 3.

If you are used to working with standard Unifier through an Internet Explorer browser, you will notice that the mobile version of Unifier does not use popup windows. Each screen opens in the main window, so you will move back and forth between screens when entering information such as line items or general comments. The simplified interface makes this easy to get used to.

Create or open a business process record on a mobile device

To create or open a business process record on a mobile device, the form must be enabled and set up for mobile use in uDesigner.

To open a business process record in Unifier mobile

1 Log into Unifier for mobile.

2 Do one of the following:
   - From the Home page, click **Tasks** to open your global tasks log, or open a project or shell and then click **Tasks** to view project/shell level tasks. The Tasks log lists all of your business process tasks, regardless of whether the business process has been enabled for mobile use. Mobile-supported business processes display as links.
   - Open a project, shell or the Company Workspace. Business processes that have been enabled for mobile use will be listed under the Business Processes heading. Click the listed business process to open the log.

3 From one of the business process logs or the Tasks log, click the record number link. The record opens.

To create a new business process record

1 Log into Unifier for mobile.

2 Open a project, shell or the Company Workspace. Business processes that have been enabled for mobile use will be listed under the Business Processes heading. Click the listed business process to open the log.

3 Click **New**. The mobile version of the form opens.

4 Complete the form.

   Note: *See also: "About entering information on a form on a mobile device" on page 651, "Add or manage line items on mobile forms" on page 658, "Add general comments to a mobile BP form" on page 659. If formula fields are present on the form, information entered in other fields that affect the formula will not automatically refresh on the form in mobile view. Click the Refresh button to refresh the field.*

5 For non-workflow business processes, click **Save** or **Finish Editing** as needed.

6 For workflow business processes, you can move it along in the workflow.

   a Click the **Workflow Action** dropdown list and select an action.

   b Click **Send**.

      c   If prompted to select users or groups, select the checkbox next to the user or group, and click **Send**.

      d   At the conformation message, click **Ok**.

Note: *You will not be able to save a Draft copy of a record.*

You are returned to the business process log.

Figure 16-4 Example business process form

Accept and complete a task on a mobile device

When you access a Tasks log, you will see a list of all of your current tasks. If a business process has been enabled for mobile access, the record number will appear as a clickable link on your device. If the business process has not been enabled for mobile viewing, it will appear on the log, but you will not be able to open it here. In your Tasks logs on a mobile device:

- New, unopened tasks are displayed in bold font
- Late tasks are shown in red
- If the business process is mobile-enabled, the record number will be a link; click the link to open the record
- If the business process has not been mobile-enabled or is unsupported for mobile access, it will be listed in the Tasks log but cannot be opened from the mobile device

To accept and complete a task

1   Do one of the following:

- From the Home page, click the **Tasks** link to open your global tasks log.
- To view tasks at the company level or for a specific project or shell, click the **Company Workspace** link, or open a project or shell, then click the **Tasks** link.
- You can also open a task from the log for the business process.

2   Click a record number link. The business process view form opens.

3   Scroll down to the bottom of the form and click the **Accept Task** button. The form now becomes editable, and you can

   • Add or edit information to the upper form

   • Add or manage line items

   • Add a general comment

   • Text type business processes may require input from you or a response. Click the **Edit** or **Response** button as needed.

4   When the form is complete, click the **Workflow Action** dropdown list and select an action.

5   Click **Send**.

6   If prompted to select users or groups, select the checkbox next to the user or group, and click **Send**.

7   At the conformation message, click **Ok**.

> **Note:** *See also: "About entering information on a form on a mobile device" on page 651, "Add or manage line items on mobile forms" on page 658, "Add general comments to a mobile BP form" on page 659. If formula fields are present on the form, information entered in other fields that affect the formula will not automatically refresh on the form in mobile view. Click the Refresh button to refresh the field.*

Figure 16-5 Example task; note buttons at bottom of the screen

Decline or un-accept a task on a mobile device

The same restrictions apply regarding declining tasks in Unifier for mobile as in standard Unifier.

To decline a task

1   From the Tasks log, click the business process record link. The form opens.

2   Scroll down to the bottom of the form and click the **Decline Task** button.

To undo accept task

1   Open the form or return to the main view of the form.

2   Scroll down the form to the Workflow Action section.

3   Click the **Undo Accept** button. The form returns to a view-only form and remains in your Tasks log.

Add or manage line items on mobile forms

In Unifier for mobile, you can add line items to business process records as you can in standard Unifier. As with the upper form, the detail form (used to enter the line item information) may be the same as you see in standard Unifier, or it may be an abbreviated version, depending on how it was set up in uDesigner. The line item grid view is not available in the mobile version.

Payment application business processes are supported; however, the default line item grid view is not available. Payment application line items can be viewed one at a time from the line item list, like other line item business processes accessed on a mobile device (new line items cannot be added, since payment application line items are generated automatically from the referenced commit and change commits). Information can be added or edited in editable fields.

Note: *If this is a new non-workflow business processes, the record needs to be saved at least once (to create the record in the system) before a line item can be added. Click the Save button to save the record. At the confirmation, click Ok. You will be returned to the record, and the line items button becomes available.*

To add a line item on a mobile form

1   In the business process record, scroll down the form to the Line Items section.

2   If this is a new non-workflow business process, first click **Save** to save the record, then **Ok** to confirm.

3   Click the button in the Line Items section. The line items list opens, listing any existing line items on the form.

   Note: The name of this button will reflect the name of the line item tab on the business process form, which is part of the form design in uDesigner. If this is a multi-tab business process, there may be additional buttons, each representing a line item tab.

4   Scroll down and click the **New** button. The detail form opens.

5   Complete the detail form and click Ok.

   You can click **Cancel** to return to the line item list.

Figure 16-6 The buttons in the Line Items section of a form correspond to line item tabs. In this example, there are two line item tabs: Line Item List and Misc Costs. Click a button to add a line item in that tab.

To edit a line item

1   In the business process record, scroll down the form to the Line Items section.

2   Click one of the line item tab buttons. The line items list opens, listing any existing line items in that line item tab on the form.

3   To search for a particular line item:

   a   Click the **Search** button.

   b   Enter any search criteria in one or more of the search fields and click **Search**.

   c   To start over, click the **Clear All** button. This returns you to the line item list.

4   Locate the line item to edit and click the link. The detail form opens.

5   Complete the detail form and click **Ok**.

Add general comments to a mobile BP form

You can add general comments to the record.

Note: *If this is a new non-workflow business process, the record needs to be saved at least once (to create the record in the system) before adding a general comment. Click the Save button to save the record. At the confirmation, click Ok. You will be returned to the record, and the General Comment button becomes available.*

To add general comments

1   Open the form, or return to the main view of the form.

2   Scroll down to the bottom of the form. Click the **General Comments** button. Any existing comments will display.

3 Click **Add**.

4 Enter your comment in the Text field and click **Ok**.

Move the form along in the workflow

This procedure is applicable to workflow business processes.

To send the form

1 Open the form and enter or edit the information as needed.

2 Scroll down the form to the Workflow Action field.

3 Click the **Workflow Action** pull-down and choose the action. This determines which step in the workflow the form will go to next.

4 Click **Send**.

5 If prompted to select users or groups, select the checkbox next to the user or group, and click **Send**.

6 At the conformation message, click **Ok**. You will return to the business process log.

Figure 16-7 The workflow action buttons are at the bottom of the form.

ADDING AND MANAGING BOOKMARKS ON UNIFIER FOR MOBILE

You can add a bookmark on any of the logs that you can access on your mobile device: business processes, tasks and messages, assets, shells (each shell type), projects, and uMail Inbox.

After adding bookmarks, you can change their order, rename them, or remove them.

Bookmarks are listed as links on your Home page.

Add a bookmark in Unifier for mobile

To add a bookmark

1 Log into Unifier for mobile and navigate to the appropriate log.

2 Scroll to the bottom of the page and click the **Add Bookmark** link. The Bookmark window opens.

3 In the Bookmark Name field, you can accept the default name, or enter a new name.

4 Click **Ok**. You are returned to the log.

Figure 16-8 Example project log. You can bookmark any log or navigation page

Manage bookmarks on a mobile device

To reorder, rename or remove a bookmark

1 Navigate to the Home page. (From any Unifier for mobile window, scroll down to the bottom of the screen and click the **Home** link.)

2 Click the **Manage Bookmarks** link at the bottom of the screen. The Manage Bookmarks window opens.

3 Do one of the following:

 • To change the order, select one or more bookmarks, then click the **Move Up** or **Move Down** button to move up or down the list. This is the display order that appears on the Home page.

 • To rename a bookmark, select it from the list and click the **Edit** button. Enter the new name and click **Ok**.

 • To remove a bookmark, select it from the list and click **Remove**. The bookmark is removed and you are returned to the Home page.

Use a bookmark

To access and use your bookmarks

1   From any Unifier for mobile page, scroll to the bottom of the page and click the **Home** link.

2   Any bookmarks that have been added are listed on the Home page. Click a bookmark link to open that page.

SEARCHING FOR RECORDS

You can search for specific records in any of the logs that you can access on your mobile device: business processes, tasks and messages, assets, shells (for each shell type), projects, and uMail Inbox. The search feature works the same way for each of these.

For business processes, assets and shells, the Search fields are designed in uDesigner, and will vary for each type. Projects and uMail use default search fields.

Search for a record in Unifier for mobile

This procedure is applicable for searching for a record in any of the Unifier for mobile logs: business processes, tasks, messages, assets, shells, projects, uMail.

To search for a record

1   Log into Unifier for mobile and navigate to the log you want to search.

2   Scroll down the screen and click the **Search** button. The Search window opens. The fields that you can search by will differ depending on the record type that you are searching for.

3   Enter search criteria into one or more of the fields. For text fields, you can enter a partial entry. Do not use wildcard symbols such as asterisks.

4   Click the **Search** button. The log now displays the record(s) that meet the search criteria you entered. The log title shows "Filtered by search," so you know that you are viewing only those items you have searched for.

To return to the regular log view and display all records

1   After performing a search, in the "filtered" log, click the **Search** button again. The Search window opens, displaying the search criteria you have previously entered.

2   Click the **Clear All** button. This clears the log, and returns you to the log window, which displays all records.

WORKING WITH ASSETS ON A MOBILE DEVICE

In Unifier for mobile, working with asset forms is similar to working with business process forms.

Asset sheets and depreciation schedules are not accessible from Unifier mobile.

To access assets on a mobile device

1　Log into Unifier on your mobile device.

2　Click the **Company Workspace** link. The Company Workspace page opens.

3　In the Asset Manager section, asset classes that have been enabled for mobile access will be listed as links.

> **Note:** *If no asset classes have been mobile-enabled (or if you do not have permission to view assets), then the Asset Manager section will not display.*

4　Click the link for the asset class you want to access. The log for that asset class opens, listing all of the available asset records. Assets are listed in a flat list. The asset codes are clickable links.

Figure 16-9　Access assets from the Company Workspace log

To add a new asset

1　Log into Unifier for mobile and navigate to the Asset Manager in the Company Workspace.

2　Click an asset class. The log for that asset class opens.

3　Click **New**. The mobile version of the form opens.

4　Complete the form.

5　Click **Save** or **Finish Editing** as needed.

To edit assets on a mobile device

1　Follow the procedure above to find the asset record you want to open.

2　Click the asset code. The asset form opens.

3　Scroll down to the bottom of the window and click the **Edit** button. The record becomes editable. (You must have edit permissions to edit the record.)

4   Edit the record as necessary.

5   If formula fields are present on the form, information entered in other fields that affect the formula will not automatically refresh on the form in mobile view. Click the **Refresh** button to refresh the formula.

6   Click **Save** to save a draft of the form, or Finish Editing if all edits are done on the form.

7   Click **Ok** to confirm.

Figure 16-10 Example asset log. Scroll down to the bottom of the screen to add or search for an asset.

Add general comments to an asset record

You can add general comments to the asset record.

Note: *If this is a new asset, the record needs to be saved at least once (to create the record in the system) before adding a general comment. Click the Save button to save the record. At the confirmation, click Ok. You will be returned to the record, and the General Comment button becomes available.*

To add general comments

1   Open the form, or return to the main view of the form.

2   Scroll down to the bottom of the form. Click the **General Comments** button. Any existing comments will display.

3   Click **Add**.

4   Enter your comment in the Text field and click **Ok**.

WORKING WITH UMAIL IN UNIFIER FOR MOBILE

You can send and receive uMail on your mobile device. You will not be able to format messages (e.g., bold, underline, etc.).

Send and receive uMail on a mobile device

You can view all uMail messages, or project/shell specific uMail messages.

To create a new uMail message

1   Log into Unifier and open a project or shell.

2   In the project or shell log, click the **uMails Inbox** link. The uMails log opens, listing any existing uMail messages you have received regarding the project or shell.

3   Click the **New** button. A new uMail message opens.

4   Add recipients to the To, Cc or Bcc fields:

   a   Click the **Add** button next to To, Cc or Bcc.

   b   Select one or more users from the list and click **Ok**.

5   To remove recipients, click the **Del** button and remove the recipients from the list.

6   To send a copy of the message to an external email address, enter the email address in the External Cc or External Bcc field.

7   Enter a Subject for the message. This displays in the uMails Inbox log.

8   Enter the body of the message in the Message text box.

9   Click **Send** to send the message.

To open a uMail messages

1   Log into Unifier for mobile and navigate to the Home page.

2   Do one of the following:
   • To view all of your uMail messages, click the **uMails Inbox** link from the Home page.
   • To view uMail messages in a specific project or shell, open the project or shell and then click **uMails Inbox**.

   The uMails Inbox log opens. Unread messages are shown in bold.

3   Click a message to open it.

To reply to or forward a uMail message

1   Open the uMail message from one of the uMails Inbox logs.

2   Do one of the following:
   • To reply to the sender of the uMail, click **Reply**.
   • To reply to all of the recipients of the uMail message, click **Reply All**.
   • To forward the message, click **Forward**.

3   Add recipients to the To, Cc or Bcc fields. If you clicked **Reply** or **Reply All**, recipients will be filled in. You can add or remove recipients.

4   You can leave the message Subject as is, or edit it.

5   Enter the body of the message in the Message text box. The original message is shown in the lower portion of the Message box.

6   Click **Send** to send the message.